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CANADA
DOMINION BUREAU OF STATISTICS
GENERAL STATISTICS BRANCH

THE
CANADA YEAR BOOK
1931

THE OFFICIAL STATISTICAL ANNUAL OF THE RESOURCES, HISTORY, INSTITUTIONS AND SOCIAL AND ECONOMIC CONDITIONS OF THE DOMINION

Published by Authority of
The Honourable H. H. STEVENS, M.P.,
MINISTER OF TRADE AND COMMERCE

OTTAWA
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PREFACE.

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The Canada Year Book had its origin in the first year of the Dominion, when the "Year Book and Almanac of British North America"—being (to quote its sub-title) "an Annual Register of political, vital and trade statistics, customs tariffs, excise and stamp duties, and all public events of interest in Upper and Lower Canada, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland, and West Indies"—was founded. Subsequently the title was altered to "The Year Book and Almanac of Canada,—an annual statistical abstract of the Dominion and a register of legislation and of public men in British North America". It was published annually from 1867 to 1879.

In 1886, after the passing of a general Statistics Act, the "Statistical Abstract and Record of Canada" was instituted as an official book of reference respecting the institutions, population, finance, trade and general conditions of the Dominion, "with comparative data for the United Kingdom, British Possessions and foreign countries". The work was prepared in the General Statistical Office of the Department of Agriculture, and was continued annually until 1904, under the direction of Dr. George Johnson, F.S.S. In 1905 the General Statistical Office was amalgamated with the Census Office (which was at the same time made a permanent organization), the Year Book being remodelled by Dr. Archibald Blue, Chief Officer, and continued under the title "The Canada Year Book, Second Series".

In the reorganization and centralization of statistics which followed the report of the Commission on Statistics of 1912, and the establishment of the Dominion Bureau of Statistics in 1918, the improvement of the Year Book, both in content and method of presentation, was made a primary object, and this improvement has been continued down to the present time.

Among the more important special features incorporated in the present edition are the following: a section consisting of meteorological tables and giving monthly average temperatures and precipitation throughout Canada (pp. 47-76); and a special article on "The Development of the Fine Arts in Canada", contributed by Dr. Newton MacTavish (pp. 995-1009). The chapter on Internal Trade has been improved by the revision of Section 7 dealing with wholesale and retail merchandising; this section now gives more comprehensive statistics on retail distribution—an important phase of economic inquiry which, owing to its breadth and ramifications, is full of difficulty, but where the research work of recent years at the Bureau is resulting satisfactorily. An additional section on sales of Canadian bonds has been added to the chapter on Banking and Currency. The Appendix contains preliminary figures on immigration and trade for the fiscal year ended Mar. 31, 1931.

Throughout the volume the latest available information is included in each section, tables generally including figures for the fiscal year 1929-30 and the letterpress supplying supplementary figures extending in some cases to the end of the calendar year 1930.

The present volume has been edited by S. A. Cudmore, B.A. (Tor.), M.A. (Oxon.), F.S.S., F. R. Econ. Soc., assisted by A. E. Millward, B.A., B. Com, W. H. Lanceley, and R. F. Clarke, M.C., D.L.S., of the editorial staff of the General Statistics Branch of the Bureau. Grateful acknowledgments are hereby tendered to the numerous officials of the Dominion and Provincial Governments who have assisted in the collection of information. An effort has been made to apportion due credit to the various individuals and services concerned by means of footnotes to those chapters and sections which have been contributed, or in the compilation of which co-operation has been received.

While the greatest care has been taken in the preparation of the volume, there are doubtless imperfections and, with a view to the improvement of future editions, the Editor will be glad to hear of any errors which may have escaped his notice, and to receive any suggestions with regard to omissions or to method of treatment.

R. H. COATS,
Dominion Statistician.

DOMINION BUREAU OF STATISTICS,
OTTAWA, June 1, 1931.

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STATISTICAL SUMMARY OF THE PROGRESS OF CANADA.

Area of the Dominion of Canada in square miles.—Land, 3,510,008; Water, 180,035; Total, 3,690,043.

	Item.		1871.	1881.	1891.	1901.	1906.
	Population[1]—						
1	Prince Edward Island........	No.	94,021	108,891	109,078	103,259	98,222
2	Nova Scotia..................	"	387,800	440,572	450,396	459,574	476,119
3	New Brunswick..............	"	285,594	321,233	321,263	331,120	341,682
4	Quebec........................	"	1,191,516	1,359,027	1,488,535	1,648,898	1,822,992
5	Ontario........................	"	1,620,851	1,926,922	2,114,321	2,182,947	2,352,470
6	Manitoba......................	"	25,228	62,260	152,506	255,211	343,082
7	Saskatchewan................	"	–	–	–	91,279	251,730
8	Alberta........................	"	–	–	–	73,022	182,813
9	British Columbia............	"	36,247	49,459	98,173	178,657	268,276
10	Yukon Territory.............	"	–	–	–	27,219	14,899
11	Northwest Territories........	"	48,000	56,446	98,967	20,129	18,364
	Canada.....................	"	3,689,257	4,324,810	4,833,239	5,371,315	6,170,649
	Immigration—						
12	From United Kingdom.......	No.	–	–	11,383[2]	11,810	86,796
13	" United States...........	"	–	–	2,412[2]	17,987	57,796
14	" Other Countries........	"	–	–	7,921[2]	19,352	44,472
	Totals.....................	"	27,773	47,991	21,716[2]	49,149	189,064
	Agriculture—						
15	Area of occupied farms........	acre	36,046,401	45,358,141	58,997,995	63,422,338	–
16	Improved lands...............	"	17,335,818	21,899,181	27,729,852	30,166,033	–
	Field Crops[3]—						
17	Wheat.........................	acre	1,646,781	2,366,554	2,701,213	4,224,542	–
		bush.	16,723,873	32,350,269	42,223,372	55,572,368	–
		$	16,993,265	38,820,323	31,667,529	36,122,039	–
18	Oats..........................	acre	–	–	3,961,356	5,367,655	–
		bush.	42,489,459	70,493,131	83,428,202	151,497,407	–
		$	15,966,310	23,967,665	31,702,717	51,509,118	–
19	Barley........................	acre	–	–	868,464	871,800	–
		bush.	11,496,038	16,844,868	17,222,795	22,224,366	–
		$	8,170,735	11,791,408	8,611,397	8,889,746	–
20	Corn..........................	acre	–	–	195,101	360,758	–
		bush.	3,802,830	9,025,142	10,711,380	25,875,919	–
		$	2,283,145	5,415,085	5,034,348	11,902,923	–
21	Potatoes......................	acre	403,102	464,289	450,190	448,743	–
		bush.	47,330,187	55,368,790	53,490,857	55,362,635	–
		$	15,211,774	13,288,510	21,396,342	13,840,658	–
22	Hay and Clover..............	acre	3,650,419	4,458,349	5,931,548	6,543,423	–
		ton	3,818,641	5,055,810	7,693,733	6,943,715	–
		$	38,869,900	40,446,480	69,243,597	85,625,315	–
	Total Areas, Field Crops....	acre	–	–	15,662,811	19,763,740	–
	Total Values, Field Crops[6]..	$	111,116,606	155,277,427	194,766,934	237,682,285	–
	Live Stock—						
23	Horses........................	No.	836,743	1,059,358	1,470,572	1,577,493	–
		$	–	–	–	118,279,419	–
24	Milch Cows...................	No.	1,251,209	1,595,800	1,857,112	2,408,677	–
		$	–	–	–	69,237,970	–
25	Other Cattle..................	No.	1,373,081	1,919,189	2,263,474	3,167,774	–
		$	–	–	–	54,197,341	–
26	Sheep.........................	No.	3,155,509	3,048,678	2,562,781	2,510,239	–
		$	–	–	–	10,490,594	–
27	Swine.........................	No.	1,366,083	1,207,619	1,733,850	2,353,828	–
		$	–	–	–	16,445,702	–
	Total Values, Live Stock...	$	–	–	–	268,651,026	–
	Dairying[3]—						
28	Cheese, factory...............	lb.	155,524	54,574,856	97,418,855	220,833,269	204,788,583[8]
		$	17,585	5,130,036	9,644,467	22,221,430	23,597,639[8]
29	Butter, creamery.............	lb.	981,939	1,365,912	3,654,364	36,066,739	45,930,294[8]
		$	188,532	225,375	635,859	7,240,972	10,949,062[8]
30	Butter, home made...........	lb.	74,190,584	102,545,169	111,577,210	105,343,076	–
		$	14,244,592	16,919,953	19,414,435	21,384,644	–
31	Miscellaneous dairy products..	$	–	–	–	15,623,907	–
	Total Values, Dairy Products	$	15,023,966	22,743,939	30,315,214	66,740,953	–
32	**Forestry**—Exports of Wood, Wood Products and Paper.....	$	–	–	25,351,085	33,099,915	45,716,762
33	**Fisheries**........................	$	7,573,199	15,817,162	18,977,874	25,737,153	26,279,485
34	**Raw Furs**........................	$	–	987,555	768,983	899,645	–

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[1] Estimated populations are given for inter-censal and post-censal years. [2] 1897. [3] The figures for 1871-1911 are for the preceding years. Export prices have been used in working out values of dairy products.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued.

Area of the Dominion of Canada in square miles:—Land, 3,510,008; Water, 180,035; Total, 3,690,043.

1911.	1916.	1921.	1926.	1927.	1928.	1929.	1930.[4]	
93,728	90,916	88,615	87,000	86,700	86,400	86,100	85,800	1
492,338	506,660	523,837	540,000	543,000	547,000	550,400	553,900	2
351,889	368,844	387,876	407,200	411,000	415,000	419,300	423,400	3
2,005,776	2,177,352	2,361,199	2,561,800	2,604,000	2,647,000	2,690,400	2,734,600	4
2,527,292	2,722,804	2,933,662	3,145,600	3,187,000	3,229,000	3,271,300	3,313,000	5
461,394	553,860	610,118	639,056	647,000	655,000	663,200	671,500	6
492,432	647,835	757,510	820,738	836,000	851,000	866,700	882,000	7
374,295	496,525	588,454	607,599	617,000	631,900	646,000	660,000	8
392,480	457,243	524,582	568,400	575,000	583,000	591,000	597,000	9
8,512	6,317	4,157	3,450	3,470	3,500	3,000	3,700	10
6,507	7,228	7,988	8,850	9,050	9,200	9,400	9,600	11
7,206,643	8,035,584	8,788,483[7]	9,389,693	9,519,220	9,658,000	9,796,800	9,934,500	
123,013	8,664	74,262	37,569	50,378	50,872	59,497	64,962	12
121,451	36,937	48,059	18,778	21,025	25,007	30,560	30,727	13
66,620	2,936	26,156	39,717	72,588	75,718	77,665	67,599	14
311,084	48,537	148,477	96,064	143,991	151,597	167,722	163,288	
108,968,715	–	140,887,903	–	–	–	–	–	15
48,733,823	–	70,769,548	–	–	–	–	–	16
8,864,154	15,369,709	17,835,734	22,895,649	22,460,154	24,119,140	25,255,002	24,897,900	17
132,077,547	262,781,000	226,508,411	407,136,000	479,665,000	566,726,000	304,520,000	397,872,000	
104,816,825	344,096,400	374,178,601	442,221,000	477,791,000	451,235,000	319,715,000	174,792,000	
8,656,179	10,996,487	13,879,257	12,741,340	13,239,963	13,136,516	12,479,477	13,258,700	18
245,393,425	410,211,000	364,989,218	383,416,000	439,712,700	452,153,000	282,838,300	423,148,000	
86,796,130	210,957,500	180,989,587	184,098,000	225,879,000	210,956,000	168,017,000	102,919,000	
1,283,094	1,802,996	2,043,669	3,642,462	3,505,713	4,880,740	5,925,542	5,558,700	19
28,848,310	42,770,000	42,956,049	99,987,100	96,938,000	136,391,400	102,313,300	135,160,200	
14,653,697	35,024,000	33,514,070	52,059,000	64,193,000	76,112,000	60,505,000	27,254,000	
293,951	173,000	204,775	209,725	131,626	139,192	152,055	161,400	20
14,417,599	6,282,000	10,822,278	7,813,000	4,262,000	5,241,000	5,183,000	5,826,000	
5,774,039	6,747,000	7,081,140	7,780,000	4,212,000	5,860,000	5,469,000	5,054,000	
464,504	472,992	534,621	523,112	572,373	599,063	543,727	571,300	21
55,461,473	63,297,000	62,230,052	46,937,000[5]	46,458,000[5]	50,195,000[5]	39,930,000[5]	48,241,000[5]	
27,426,765	50,982,300	44,635,547	69,204,000	54,341,000	40,874,000	63,372,000	39,858,000	
8,289,407	7,821,257	8,541,093	9,516,125	10,226,895	10,320,863	10,560,101	10,618,200	22
10,406,367	14,527,000	8,593,393	14,058,000	17,370,000	16,515,000	15,833,000	16,397,000	
90,115,531	168,547,900	169,822,397	170,473,000	180,835,000	171,225,000	184,528,000	161,122,000	
30,556,168	38,930,333	47,553,418	56,097,836	56,172,310	59,351,811	61,207,034	62,214,670	
384,513,795	886,494,900	933,045,936	1,104,983,100	1,172,643,600	1,125,003,000	948,981,400	631,592,900	
2,598,958	3,246,430	3,624,262	3,398,114	3,421,857	3,376,394	3,376,487	3,295,000	23
381,915,505	418,686,000	440,502,040	245,119,000	260,476,000	255,469,000	235,971,000	202,013,000	
2,595,255	2,835,532	3,324,653	3,839,191	3,883,229	3,782,012	3,684,766	3,683,000	24
109,575,526	198,896,000	203,555,836	201,236,000	236,071,000	271,557,000	273,817,000	218,822,000	
3,930,828	3,763,155	5,194,831	4,731,688	5,266,434	4,989,647	5,139,866	5,254,000	25
86,278,490	204,477,000	139,590,484	148,742,000	204,558,000	231,287,000	239,713,000	182,263,000	
2,174,300	2,025,030	3,203,966	3,142,476	2,362,706	3,415,788	3,635,923	3,696,000	26
10,701,691	20,927,000	20,704,509	31,417,000	32,004,000	35,530,000	36,118,000	25,275,000	
3,634,778	3,484,982	3,404,730	4,359,582	4,694,789	4,487,367	4,381,725	4,000,000	27
26,986,621	60,700,000	36,893,244	69,958,000	65,116,000	66,595,000	71,111,000	58,852,000	
615,457,833	903,686,000	836,413,401	696,472,000	798,225,000	860,448,000	856,730,000	687,225,000	
199,904,205	192,968,597	162,117,494	171,731,631	138,056,908	144,584,619	118,746,286		28
21,587,124	35,512,622	28,710,030	28,807,841	25,522,148	30,494,463	21,471,330	–	
64,489,398	82,564,130	128,744,610	177,209,287	176,978,947	168,027,039	170,810,230	–	29
15,597,807	26,966,355	48,135,439	61,753,390	65,709,986	64,702,538	65,929,782	–	
137,110,200	–	100,000,000	95,000,000	95,000,000	90,000,000	88,000,000	–	30
30,269,497	–	29,840,000	28,252,777	30,435,121	29,103,100	28,929,000	–	
35,927,426	–	98,750,881	158,490,971	173,207,335	173,325,346	175,412,745	–	31
103,381,854	–	205,436,350	277,304,979	294,874,590	297,625,347	291,742,857	–	
56,334,695	83,116,282	284,561,478	278,674,960	284,120,267	284,543,396	288,621,745	289,566,675	32
34,667,872	35,860,708	34,931,935	56,360,633	49,123,609	55,050,973	53,518,521	48,000,000	33
1,927,550	–	10,151,594	15,072,244	18,864,126	18,758,177	18,745,473	12,208,547	34

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[4] The figures for 1930 are subject to revision. [5] Cwt. [6] See Monthly Bulletin of Agricultural Statistics for May, 1921, for particulars of the values of field crops for the years, 1871, 1881, 1891 and 1901. [7] Includes Canadian Navy. [8] 1907.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued.

	Item.		1871.	1881.	1891.	1901.	1906.
	Mineral Production—						
1	Gold	oz.	105,187	63,524	45,018	1,167,216	556,415
		$	2,174,412	1,313,153	930,614	24,128,503	11,502,120
2	Silver	oz.	–	355,083[1]	414,523	5,539,192	8,473,379
		$	–	347,271[1]	409,549	3,265,354	5,659,455
3	Copper	lb.	–	3,260,424[1]	9,529,401	37,827,019	55,609,888
		$	–	366,798[1]	1,226,703	6,096,581	10,720,474
4	Lead	lb.	–	204,800[1]	88,665	51,900,958	54,608,217
		$	–	9,216[1]	3,857	2,249,387	3,089,187
5	Nickel	lb.	–	830,477[11]	4,035,347	9,189,047	21,490,955
		$	–	498,286[11]	2,421,208	4,594,523	8,948,834
6	Pig iron	ton	–	24,827[1]	23,891	274,376	598,411
		$	–	366,192[1]	368,901	3,512,923	7,955,136
7	Coal	ton	1,063,742[2]	1,537,106	3,577,749	6,486,325	9,762,601
		$	1,763,423[2]	2,688,621	7,019,425	12,699,243	19,732,019
8	Cement	brl.	–	69,843[1]	93,479	450,394	2,128,374
		$	–	81,909[1]	108,561	660,030	3,170,859
	Totals, Mineral Production	$	–	10,221,255[3]	18,976,616	65,797,911	79,286,697
	Electric Statistics—						
9	Power Houses	No.	–	–	80	58	157
10	Capital invested	$	–	–	4,113,771	11,891,025	80,393,445
11	Kilowatt hours generated[4]	No.	–	–	–	–	–
12	Customers	No.	–	–	–	–	–
	Water Power—						
13	Turbine H.P. installed	No.	–	–	71,219	238,902	608,002
	Manufactures[5]—						
14	Employees	No.	187,942	254,894	272,033	339,173	383,920
15	Capital	$	77,964,020	164,957,423	353,213,000	446,916,487	833,916,155
16	Salaries and wages	$	40,851,009	59,401,702	79,234,311	113,249,350	162,155,578
17	Products—						
	Gross	$	221,617,773	309,731,867	368,696,723	481,053,375	706,446,578
	Net	$	96,709,927	–	–	214,525,517	–
	External Trade—						
18	Exports[6]	$	57,630,024	83,944,701	88,671,738	177,431,386	235,483,956
19	Imports[7]	$	84,214,388	90,488,329	111,533,954	177,930,919	283,740,280
	Totals, External Trade	$	141,844,412	174,433,030	200,205,692	355,362,305	519,224,236
20	Exports to United Kingdom	$	21,733,556	42,637,219	43,243,784	92,857,525	127,456,465
21	Imports from United Kingdom	$	48,498,202	42,885,142	42,018,943	42,820,334	69,183,915
22	Exports to United States	$	29,164,358	34,038,431	37,743,430	67,983,673	83,546,306
23	Imports from United States	$	27,185,586	36,338,701	52,033,477	107,377,906	169,256,452
	Exports, Domestic, by Chief Items—						
24	Wheat	bush.	1,748,977	2,523,673	2,108,216	9,739,758	40,399,402
		$	1,981,917	2,593,820	1,583,084	6,871,939	33,658,391
25	Wheat flour	brl.	306,339	439,728	296,784	1,118,700	1,532,014
		$	1,609,849	2,173,108	1,388,578	4,015,226	6,179,825
26	Oats	bush.	542,386	2,926,532	260,560	8,155,063	2,700,303
		$	231,227	1,791,873	129,917	2,490,521	1,083,347
27	Hay	ton	23,487	168,381	65,083	252,977	206,714
		$	290,217	1,813,208	559,489	2,097,882	1,529,941
28	Bacon and hams, shoulders and sides.	cwt.	103,444	103,547	75,541	1,055,495	1,029,079
		$	1,018,918	758,334	628,469	11,778,446	12,086,868
29	Butter	lb.	15,439,266	17,649,491	3,768,101	16,335,528	34,031,525
		$	3,065,234	3,573,034	602,175	3,295,663	7,075,539
30	Cheese	lb.	8,271,439	49,255,523	106,202,140	195,926,697	215,834,543
		$	1,109,906	5,510,443	9,508,800	20,696,951	24,433,169
31	Gold	$	163,037	767,318	554,126	24,445,156	12,991,916
32	Silver	oz.	–	–	–	4,022,019	7,261,527
		$	595,261	34,494	238,367	2,420,750	4,310,528
33	Copper[8]	lb.	6,246,000	39,604,000	10,994,498	26,345,776	44,282,348
		$	120,121	150,412	505,196	2,659,261	7,148,633
34	Nickel	lb.	–	–	5,352,043	9,537,558	23,959,841
		$	–	–	240,499	958,365	2,166,936
35	Coal	ton	318,287	420,055	833,684	1,888,538	1,820,511
		$	662,451	1,123,091	2,916,465	5,307,060	4,643,198
36	Asbestos	ton	–	–	7,022	26,715	57,075
		$	–	–	513,909	864,573	1,578,137
37	Wood pulp	cwt.	–	–	–	–	–
		$	–	–	280,619	1,937,207	3,478,150
38	Newsprint paper	cwt.	–	–	–	–	–
		$	–	–	–	–	–

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[1] 1887. [2] 1874. [3] 1886. [4] 000's omitted. [5] The statistics of manufactures in 1871 and 1881 include works employing fewer than 5 hands, while those of 1891, 1901, 1911 and 1916 are for works with 5 hands and over, except in the case of butter and cheese factories, flour and grist mills, electric light plants, lumber, lath and shingle mills, lime kilns, brick and tile works, and fish canneries. The figures for these years are

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued.

1911.	1916.	1921.	1926.	1927.	1928.	1929.	1930.[9]	
473,159	930,492	926,329	1,754,228	1,852,785	1,890,592	1,928,308	2,107,073	1
9,781,077	19,234,976	19,148,920	36,263,110	38,300,464	39,082,005	39,861,663	43,557,063	
32,559,044	25,459,741	13,543,198	22,371,924	22,736,698	21,936,407	23,143,261	26,435,935	2
17,355,272	16,717,121	8,485,355	13,894,531	12,816,677	12,761,725	12,264,308	10,086,367	
55,648,011	117,150,028	47,620,820	133,094,942	140,147,440	202,696,046	248,120,760	303,356,644	3
6,886,998	31,867,150	5,953,555	17,490,300	17,194,487	28,598,249	43,415,251	37,990,226	
23,784,969	41,497,615	66,679,592	283,801,265	311,423,161	337,946,688	326,522,566	333,067,797	4
827,717	3,532,692	3,828,742	19,240,661	16,477,139	15,553,231	16,544,248	13,109,451	
34,098,744	82,958,564	19,293,060	65,714,294	66,798,717	96,755,578	110,275,912	103,768,857	5
10,229,623	29,035,498	6,752,571	14,374,163	15,262,171	22,318,907	27,115,461	24,455,133	
917,535	1,169,257	665,676	820,426	794,860	1,162,254	1,209,779	836,839	6
12,307,125	16,750,898	15,511,828	16,011,173[10]	14,038,793[10]	20,754,500[10]	21,603,200[10]	14,345,800[10]	
11,323,388	14,483,395	15,057,495	16,478,131	17,426,861	17,564,293	11,496,557	14,878,728	7
26,467,646	38,817,481	72,451,656	59,875,094	61,867,463	63,757,833	63,065,170	53,287,813	
5,692,915	5,369,560	5,752,885	8,707,021	10,065,865	11,023,928	12,284,081	11,032,539	8
7,644,537	6,547,728	14,195,143	13,013,283	14,391,937	16,739,163	19,337,235	17,818,451	
103,220,994	177,201,534	171,923,342	240,437,123	247,356,695	274,989,487	310,850,246	278,470,563	
266	307	510	595	629	601	587	–	9
110,838,746	248,573,546	484,669,451	756,220,066	866,825,285	956,919,603	1,055,731,532	–	10
–	–	5,614,132	12,093,445	14,549,099	16,336,518	17,962,515	18,156,000	11
–	–	973,212	1,337,562	1,381,966	1,464,005	1,555,883	–	12
1,363,134	2,222,169	2,754,157	4,549,383	4,798,917	5,349,232	5,727,162	6,125,012	13
515,203	–	456,076	581,539	618,933	658,023	693,816	–	14
1,247,583,609	1,958,705,230	3,190,026,358	3,981,569,590	4,337,631,558	4,780,296,049	5,083,014,754	–	15
241,008,416	283,311,505	518,785,137	653,850,933	693,932,228	755,199,372	813,049,842	–	16
1,165,975,639	1,381,547,225	2,576,037,029	3,247,803,438	3,425,498,540	3,769,847,364	4,063,987,279	–	17
564,466,621	589,603,792	1,209,143,344	1,492,645,039	1,635,923,936	1,819,046,025	1,997,350,365	–	
274,316,553	741,610,638	1,189,163,701	1,315,355,791	1,252,157,506	1,228,349,343	1,363,709,672	1,120,258,302	18
452,724,603	508,201,134	1,240,158,882	927,328,732	1,030,892,505	1,108,956,466	1,265,679,091	1,248,273,582	19
727,041,156	1,249,811,772	2,429,322,583	2,242,684,523	2,283,050,011	2,337,305,809	2,629,388,763	2,368,531,884	
132,156,924	451,852,399	312,844,871	508,237,560	446,872,851	410,691,392	429,730,485	281,745,965	20
109,934,753	77,404,361	213,973,562	163,731,210	163,939,065	186,435,824	194,041,381	189,179,738	21
104,115,823	201,106,488	542,322,967	474,987,367	466,422,789	478,145,383	499,612,145	515,049,763	22
275,824,265	370,880,549	856,176,820	608,618,542	687,022,521	718,896,270	868,012,229	847,442,037	23
45,802,115	157,745,469	129,215,157	249,679,470	248,497,482	266,902,189	370,459,551	177,006,369	24
45,521,134	172,896,445	310,952,138	364,364,388	353,094,940	352,117,150	428,524,326	215,753,475	
3,049,046	6,400,214	6,017,032	10,084,974	10,147,705	9,387,273	11,405,728	7,893,960	25
13,854,790	35,767,044	66,520,490	69,687,598	68,720,334	59,879,302	65,117,779	45,457,195	
5,431,662	26,816,322	14,321,048	43,058,283	15,438,329	7,168,723	15,657,348	6,406,181	26
2,144,846	14,637,849	14,152,033	24,237,693	8,598,755	4,275,353	10,241,938	4,055,855	
326,132	255,407	179,398	368,787	321,733	171,164	113,763	162,188	27
2,723,291	5,849,426	4,210,594	3,711,840	3,246,170	1,684,100	1,127,270	2,007,944	
598,745	1,536,517	982,338	1,253,760	787,447	568,447	366,582	267,026	28
8,526,332	27,090,113	31,492,407	28,590,301	19,117,097	11,940,909	7,874,026	6,579,726	
3,142,682	3,441,183	9,739,414	23,303,865	9,878,400	2,643,300	1,889,200	1,309,400	29
744,288	1,018,769	5,128,831	8,773,125	3,351,589	1,053,553	764,836	543,851	
181,895,724	168,961,583	133,620,340	148,333,500	136,665,400	105,212,600	112,609,200	92,293,700	30
20,739,507	26,690,500	37,146,722	33,718,587	24,956,179	21,100,625	25,181,853	18,278,004	
5,344,465	16,870,394	3,038,779	25,968,094	6,854,342	9,035,734	12,396,444	34,375,003	31
33,731,010	27,794,566	13,331,050	18,382,415	21,812,957	21,370,047	20,768,801	22,576,768	32
17,269,168	14,298,351	11,127,432	12,365,576	12,976,334	11,861,537	11,962,928	11,569,855	
55,005,342	111,046,300	36,167,900	61,090,600	66,860,700	74,945,500	85,590,600	82,084,600	33
5,575,033	14,670,073	4,336,972	7,037,206	7,835,143	7,083,725	7,936,179	8,769,586	
34,767,523	70,443,000	47,018,300	71,081,400	62,444,700	78,228,500	107,482,200	106,517,500	34
3,842,332	7,714,769	9,405,291	12,829,244	12,921,190	17,026,304	23,880,492	25,034,975	
2,315,171	1,971,124	2,277,202	753,842	1,264,901	884,097	841,493	728,267	35
6,014,095	6,032,765	16,501,478	4,083,713	7,112,763	4,653,816	4,402,028	3,917,650	
69,829	88,833	191,299	269,652	265,946	264,127	268,879	286,497	36
2,076,477	2,962,010	12,633,389	9,920,900	10,614,694	10,677,171	11,267,188	12,074,065	
6,588,655	8,144,019	14,363,006	19,812,381	18,959,351	17,886,405	16,950,165	17,261,954	37
5,715,532	10,376,548	71,552,037	49,909,870	49,887,739	47,261,235	44,895,717	44,704,958	
–	9,264,080	15,112,586	29,537,366	35,437,629	39,417,522	45,264,586	49,800,821	38
3,092,437	17,974,292	78,922,137	102,238,568	116,452,158	128,507,101	142,343,064	145,610,519	

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for the preceding years in each case. From 1922 statistics are exclusive of construction, hand trades, repair and custom work. Figures for 1925-29 include non-ferrous metal smelting not included in earlier years. [6] Exports of domestic merchandise only. [7] Imports of merchandise for home consumption.
[8] Copper, fine, contained in ore, matte, regulus, etc. [9] The figures for 1930 are subject to revision.
[10] Estimated on the basis of sales. [11] The figures are for 1889.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued.

	Item.		1871.	1881.	1891.	1901.	1906.
	Exports, Domestic, by Classes—						
1	Vegetable products (except chemicals, fibres and wood)..	$	–	–	13,742,557	25,541,567	55,828,252
2	Animals and their products (except chemicals and fibres).	$	–	–	36,399,140	68,465,332	84,570,644
3	Fibres, textiles and textile products..........................	$	–	–	872,628	1,880,539	2,602,903
4	Wood, wood products and paper	$	–	–	25,351,085	33,099,915	45,716,762
5	Iron and its products...........	$	–	–	556,527	3,778,897	4,705,296
6	Non-ferrous metals and their products....................	$	–	–	1,618,955	33,395,096	28,455,786
7	Non-metallic minerals and their products (ex. chemicals)	$	–	–	3,988,584	7,356,444	7,817,475
8	Chemicals and allied products..	$	–	–	851,211	791,855	1,784,800
9	All other commodities.........	$	–	–	5,291,051	3,121,741	4,002,038
	Totals, Exports, Domestic..	$	57,630,024	83,944,701	88,671,738	177,431,386	235,483,956
	Imports for Consumption—						
10	Vegetable products (except chemicals, fibres and wood).	$	–	–	24,212,140	38,036,146	50,307,368
11	Animals and their products (except chemicals and fibres).	$	–	–	8,080,862	14,022,896	23,616,835
12	Fibres, textiles and textile products..........................	$	–	–	28,670,141	37,284,752	59,292,868
13	Wood, wood products and paper.	$	–	–	5,203,490	8,196,901	14,341,947
14	Iron and its products...........	$	–	–	15,142,615	29,955,936	49,436,840
15	Non-ferrous metals and their products....................	$	–	–	3,810,626	7,167,318	17,533,430
16	Non-metallic minerals and their products (except chemicals)..	$	–	–	14,139,024	21,255,403	33,757,284
17	Chemicals and allied products..	$	–	–	3,697,810	5,684,999	8,269,169
18	All other commodities.........	$	–	–	8,577,246	16,326,568	27,184,539
	Totals, Imports............	$	84,214,388	90,488,329	111,533,954	177,930,919	283,740,280
	Steam Railways—						
19	Miles in operation..............	No.	2,695	7,331	13,838	18,140	21,353
20	Capital..........................	$	257,035,188[1]	284,419,293	632,061,440	816,110,837	1,065,881,629
21	Passengers......................	No.	5,190,416[2]	6,943,671	13,222,568	18,385,722	27,989,782
22	Freight..........................	ton	5,670,836[2]	12.065,323	21,753,021	36,999,371	57,966,713
23	Earnings........................	$	19,470,539[2]	27,987,509	48,192,099	72,898,749	125,322,865
24	Expenses........................	$	15,775,532[2]	20,121,418	34,960,449	50,368,726	87,129,434
	Electric Railways—						
25	Miles in operation..............	No.	–	–	–	675	814
26	Capital..........................	$	–	–	–	–	–
27	Passengers......................	No.	–	–	–	120,934,656	237,655,074
28	Freight..........................	ton	–	–	–	287,926	506,024
29	Earnings........................	$	–	–	–	5,768,283	10,966,871
30	Expenses........................	$	–	–	–	3,435,162	6,675,037
	Canals—						
31	Passengers carried.............	No.	100,377	118,136	146,336	190,428	256,500
32	Freight..........................	ton	3,955,621	2,853,230	2,902,526	5,665,259	10,523,185
	Shipping (Sea-going)—						
33	Entered..........................	ton	2,521,573	4,032,946	5,273,935	7,514,732	8,895,353
34	Cleared..........................	"	2,594,460	4,071,391	5,421,261	7,028,330	7,948,076
35	Totals...........................	"	5,116,033	8,104,337	10,695,196	14,543,062	16,843,429
	Shipping (Inland International)—						
36	Entered..........................	ton	4,055,198	2,934,503	4,098,434	5,720,575	9,352,653
37	Cleared..........................	"	3,954,797	2,763,592	4,009,018	5,766,171	8,536,090
38	Totals...........................	"	8,009,995	5,698,095	8,107,452	11,486,746	17,888,743
	Shipping (Coastwise)—						
39	Entered..........................	ton	–	7,664,863	12,835,774	17,927,959	23,543,604
40	Cleared..........................	"	–	7,451,903	12,150,356	16,516,832	22,780,458
41	Totals...........................	"	–	15,116,766	24,986,130	34,444,796	46,324,062
42	Telegraphs, Government, miles of line.......................		–	1,947	2,699	5,744	6,829
43	Telegraphs, other, miles of line.		–	–	27,866	30,194	31,506
44	Telephones......................	No.	–	–	–	63,192	–
45	Motor vehicles..................	"	–	–	–	–	2,130[3]

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[1] 1876. [2] 1875. [3] Motor vehicles in 6 provinces numbered 2,130 in 1907.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued.

1911.	1916.	1921.	1926.	1927.	1928.	1929.	1930.[4]	—
84,368,425	257,019,215	482,140,444	606,058,672	574,994,162	555,110,598	646,514,058	384,635,751	1
69,693,263	138,375,083	188,359,937	190,975,417	167,291,589	165,845,096	158,757,272	133,009,145	2
1,818,931	15,097,691	18,783,884	8,940,046	7,665,563	10,904,073	9,678,019	9,066,226	3
56,334,695	83,116,282	284,561,478	278,674,960	284,120,267	284,543,396	288,621,745	289,566,675	4
9,884,346	66,127,099	76,500,741	74,735,077	74,284,824	62,753,934	82,256,717	78,589,580	5
34,000,996	66,036,542	45,939,377	97,476,270	80,639,197	90,840,441	112,778,194	154,319,429	6
10,038,493	12,096,973	40,345,345	24,712,584	28,880,831	25,949,930	27,401,790	28,545,096	7
3,088,840	15,961,226	20,142,826	17,354,389	16,203,760	17,365,516	19,438,064	22,468,462	8
5,088,564	87,780,527	32,389,669	16,428,376	18,077,313	15,036,359	18,263,813	20,057,938	9
274,316,553	741,610,638	1,189,163,701	1,315,355,791	1,252,157,506	1,228,349,343	1,363,709,672	1,120,258,302	
79,214,041	95,421,161	259,431,110	203,417,431	213,098,121	238,185,560	233,130,244	227,048,817	10
30,671,908	38,657,514	61,722,390	49,185,558	53,214,135	65,790,021	71,661,754	69,853,833	11
87,916,282	96,191,485	243,608,342	184,761,831	183,583,931	186,994,462	206,439,173	185,241,252	12
26,851,936	18,277,420	57,449,384	40,403,096	47,962,298	51,750,924	59,214,818	60,951,077	13
91,968,180	92,065,895	245,625,703	181,196,800	229,429,485	259,575,020	346,615,810	316,878,627	14
27,579,572	29,431,592	55,651,319	47,692,985	52,747,842	60,190,036	75,438,431	87,950,252	15
53,430,475	53,490,284	206,095,113	139,033,940	156,784,707	153,049,438	166,964,231	186,496,388	16
12,471,730	19,217,505	37,887,449	28,404,276	31,844,715	33,572,113	37,723,046	39,907,503	17
42,620,479	65,448,278	72,688,072	53,232,815	62,227,271	59,848,892	68,491,584	73,945,833	18
452,724,603	508,201,134	1,240,158,882	927,328,732	1,030,892,505	1,108,956,466	1,265,679,091	1,248,273,582	
25,400	37,434	39,363	40,352	40,572	41,024	41,409	42,075	19
1,528,689,201	1,893,125,774	2,164,687,636	3,560,948,932	3,637,837,497	3,722,476,251	3,966,357,355	4,071,490,000	20
37,097,718	43,503,459	46,793,251	42,686,166	41,840,550	40,592,792	39,070,893	34,710,000	21
79,884,282	109,659,088	103,131,132	122,476,822	125,967,439	141,230,026	137,855,151	115,398,000	22
188,733,494	261,888,654	458,008,891	493,599,754	499,064,207	563,732,260	534,106,185	454,615,000	23
131,034,785	180,542,259	422,581,205	389,503,452	407,646,280	442,701,270	433,077,113	380,919,000	24
1,224	1,674	1,687	1,684	1,652	1,653	1,637		25
111,532,347	154,895,584	177,187,436	215,808,520	222,552,717	221,302,236	222,422,815		26
426,296,792	580,094,167	719,305 441	748,710,836	781,398,194	808,023,615	836,729,851	–	27
1,228,362	1,936,674	2,285,886	3,493,457	3,269,028	3,892,114	3,662,765	–	28
20,356,952	27,416,285	44,536,833	51,723,199	53,506,401	55,632,761	58,268,981	–	29
12,096,134	18,099,906	35,945,316	36,453,709	37,616,568	38,782,719	40,085,140	–	30
304,904	263,648	230,129	197,561	210,884	188,146	164.552	133,266	31
38,030,353	23,583,491	9,407,021	13,477,663	17,488,311	18,720,441	13,699,647	14,803,334	32
11,919,339	12,616,927	12,516,503	22,837,720	23,224,281	24,240,847	27,464,158	27,155,766	33
10,377,847	12,210,723	12,400,226	22,817,276	22,925,488	23,973,787	26,944,369	25,836,466	34
22,297,186	24,827,656	24,916,729	45,654,996	46,149,769	48,214,634	54,408,527	52,992,232	35
13,286,102	16,486,778	14,828,454	14,117,099	14,862,096	16,745,632	18,987,751	17,550,585	36
11,846,257	16,406,670	14,903,447	15,474,732	16,319,794	18,843,531	20,338,949	18,895,972	37
25,132,359	32,893,448	29,731,901	29,591,831	31,181,890	35,589,163	39,326,700	36,446,557	38
34,280,669	35,624,074	28,567,545	41,770,480	43,124,919	45,381,586	49,046,588	43,666,866	39
32,347,265	33,085,350	27,773,668	41,117,175	42,617,467	44,146,030	48,007,097	44,067,907	40
66,627,934	68,709,424	56,341,213	82,887,655	85,742,386	89,527,616	97,053,685	87,734,773	41
8,446	10,699	11,207	10,722	10,737	10,765	9,848	9,351	42
33,905	38,552	41,577	42,239[5]	41,994	43,012	42,987	43,473	43
302,759	548,421	902,090	1,201,008	1,259,987	1,334,534	1,399,986	–	44
21,519	123,464	465,378	836,794	945,672	1,076,819	1,195,594	1,239,888	45

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[4] The figures for 1930 are subject to revision. [5] Excluding U.S. lines of Canadian National Telegraphs.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued.

	Item.		1871.	1881.	1891.	1901.	1906.
	Post Office—						
1	Revenue	$	803,637	1,344,970	2,515,823	3,421,192	5,993,343
2	Expenditure	$	994,876	1,876,658	3,161,676	3,837,376	4,921,577
3	Money orders issued	$	4,546,434	7,725,212	12,478,178	17,956,258	37,355,673
	Dominion Finance—						
4	Customs Revenue	$	11,841,105	18,406,092	23,305,218	28,293,930	46,053,377
5	Excise Revenue	$	4,295,945	5,343,022	6,914,850	10,318,266	14,010,220
6	Total Ordinary Revenue	$	19,335,561	29,635,298	38,579,311	52,514,701	80,139,360
7	Revenue per head	$	5·50	6·83	7·96	9·72	12·99
8	Total Ordinary Expenditure	$	15,623,082	25,502,554	36,343,568	46,866,368	67,240,641
9	Expenditure per head	$	4·44	5·88	7·50	8·67	10·90
10	Total Disbursements	$	19,293,478	33,796,643	40,793,208	57,982,866	83,277,642
11	Disbursements per head	$	5·48	7·79	8·42	10·73	13·49
12	Gross Debt	$	115,492,683	199,861,537	289,899,230	354,732,433	392,269,680
13	Assets	$	37,786,165	44,465,757	52,090,199	86,252,429	125,226,702
	Net Debt	$	77,706,518	155,395,780	237,809,031	268,480,004	267,042,978
	Provincial Finance—						
14	Revenue, Ordinary, Totals	$	5,518,946	7,858,698	10,693,815	14,074,991	23,027,122
15	Expenditure, Ordinary, Totals	$	4,935,008	8,119,701	11,628,353	14,146,059	21,169,868
	Note Circulation—						
16	Bank Notes	$	20,914,637	28,516,692	33,061,042	50,610,205	70,638,870
17	Dominion Notes	$	7,244,341	14,539,795	16,176,316[5]	27,898,509[5]	49,941,426[5]
	Chartered Banks—						
18	Capital, paid-up	$	37,095,340	59,534,977	60,700,697	67,035,615	91,035,604
19	Assets	$	125,273,631	200,613,879	269,307,032	531,829,324	878,512,076
20	Liabilities to the public	$	80,250,974	127,176,249	187,332,325	420,003,743	713,790,553
21	Deposits payable on demand	$	–	–	–	95,169,631	165,144,569
22	Deposits payable after notice	$	–	–	–	221,624,664	381,778,705
	Totals, Deposits[2]	$	56,287,391	94,346,481	148,396,968	349,573,327	605,968,513
	Savings Banks—						
23	Deposits in Post Office	$	2,497,260	6,208,227	21,738,648	39,950,813	45,736,488
24	Deposits in Government Banks	$	2,072,037	9,628,445	17,661,378	16,098,144	16,174,134
25	Deposits in Special Banks	$	5,766,712	7,685,888	10,982,232	19,125,097	27,399,194
	Loan Companies[3]—						
26	Assets	$	8,392,464	73,906,638	125,041,146	158,523,307	232,076,447
27	Liabilities	$	8,392,464	71,965,017	123,915,704	158,523,307	232,076,447
28	Deposits	$	2,399,136	13,460,268	18,482,959	20,756,910	23,046,194
	Trust Companies—						
29	Shareholders' assets	$	–	–	–	–	–
30	Trust funds, liabilities	$	–	–	–	–	–
	Dominion Fire Insurance—						
31	Amount at risk, Dec. 31	$	228,453,784	462,210,968	759,602,191	1,038,687,619	1,443,902,244
32	Premium income for year	$	2,321,716	3,827,116	6,168,716	9,650,348	14,687,963
	Provincial Fire Insurance—						
33	Amount at risk, Dec. 31	$	–	–	–	–	–
34	Premium income for year	$	–	–	–	–	–
	Dominion Life Insurance[1]—						
35	Amount at risk, Dec. 31	$	45,825,935	103,290,932	261,475,229	463,769,034	656,260,900
36	Premium income for year	$	1,852,974	3,094,689	8,417,702	15,189,854	22,364,456
	Provincial Life Insurance—						
37	Amount at risk, Dec. 31	$	–	–	–	–	–
38	Premium income for year	$	–	–	–	–	–
	Business Transacted—						
39	Bank clearings	Thousands of $	–	–	580,644	1,871,062	3,950,701
40	Bank debits	Thousands of $	–	–	–	–	–
	Education—						
41	Enrolment	No.	803,000	891,000	993,000	1,083,000	1,173,009
42	Average daily attendance	"	–	–	–	669,000	743,496
43	Number of teachers	"	13,559	18,016	23,718	27,126	32,250
44	Totals, Public Expenditure	$	–	–	–	11,044,925	16,368,244

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[1] Figures do not include fraternal insurance. [2] Including amounts deposited elsewhere than in Canada from 1901-1929. [3] Including Building Societies and Trust Companies (1871-1911). [4] The figures for 1930 are subject to revision. [5] As at June 30. [6] Active assets only. [7] Included in Post Office savings banks.

NOTE.

In the foregoing Summary, the statistics of immigration, fisheries (1871-1916), trade, shipping, the Post Office, the public debt, revenue and expenditure and the Post Office and Government savings banks

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—concluded.

1911.	1916.	1921.	1926.	1927.	1928.	1929.	1930.[4]	
9,146,952	18,858,410	26,331,119	31,024,464	29,378,697	30,529,155	31,170,904	32,969,293	1
7,954,223	16,009,139	24,661,262	30,499,686	31,007,698	32,379,196	33,483,058	35,036,629	2
70,614,862	94,469,871	173,523,322	177,840,231	188,219,777	200,773,403	203,129,237	197,699,353	3
71,838,089	98,649,409	163,266,804	127,355,143	141,968,678	156,985,818	187,206,332	179,429,920	4
16,869,837	22,428,492	37,118,367	42,923,549	48,513,160	57,400,898	63,684,954	65,035,701	5
117,780,409	172.147,838	434,386,537	380,745,506	398,695,776	422,717,983	455,463,874	441,411,806	6
16·34	21·42	49·64	40·78	42·07	44·49	46·97	44·89	7
87,774,198	130,350,727	361,118,145	320,660,479	319,548,173	336,167,961	350,952,924	357,779,794	8
12·18	16·22	41·09	34·15	33·57	34·81	35·82	36·01	9
122,861,250	339,702,502	528,283,199	355,186,423	358,556,751	378,658,440	388,805,953	398,176,246	10
17·04	42·27	60·11	37·83	37·67	39·21	39·69	40·08	11
474,941,487	936,987,802	2,902,482,117	2,768,779,184	2,726,298,717	2,677,137,243	2,647,033,973	2,544,586,411	12
134,899,435	321,831,631	561,603,133[6]	379,048,085[6]	378,464,347[6]	380,287,010[6]	421,529,268[6]	366,822,452	13
340,042,052	615,156,171	2,340,878,984	2,389,731,099	2,347,834,370	2,296,850,233	2,225,504,705	2,177,763,959	
40,706,948	50,015,795	102,030,458	146,450,904	156,845,780	168,109,505	183,598,024	–	14
38,144,511	53,826,219	102,569,515	144,183,178	152,211,883	165,583,910	177,542,192	–	15
89,982,223	126,691,913	194,621,710	168,885,995	172,100,763	176,716,979	178,291,030	159,341,085	16
99,921,354	176,816,006	271,531,162	190,004,824	184,898,003	201,171,816	204,381,409	174,616,019	17
103,009,256	113,175,353	129,096,339	116,638,254	121,666,774	122,839,879	137,269,085	144,560,874	18
1,303,131,260	1,839,286,709	2,841,782,079	2,864,019,213	3,029,680,616	3,323,163,195	3,528,468,027	3,237,073,853	19
1,097,661,393	1,596,905,337	2,556,454,190	2,604,601,786	2,758,325,545	3,044,742,165	3,215,503,098	2,909,530,263	20
304,801,755	428,717,781	551,914,643	553,322,935	596,069,007	677,467,295	696,387,381	622,895,347	21
568,976,209	780,842,383	1,289,347,063	1,340,559,021	1,399,062,201	1,496,608,451	1,479,870,058	1,427,569,716	22
980,433,788	1,418,035,429	2,264,586,736	2,277,192,043	2,415,132,261	2,610,594,865	2,696,747,857	2,516,611,587	
43,330,579	40,008,418	29,010,619	24,035,669	23,402,337	23,463,210	28,375,770	26,086,036	23
14,673,752	13,519,855	10,150,189	8,794,875	8,519,706	7,640,566	[7]	[7]	24
34,770,386	40,405,037	58,576,775	67,241,344	69,940,351	72,695,422	70,809,603	68,846,366	25
389,701,988	70,872,297	96,698,810	120,321,095	134,669,734	134,793,527	135,358,095	143,312,308	26
389,701,988	70,872,297	95,281,122	119,445,317	134,492,018	134,633,354	134,654,166	143,307,739	27
[1]33,742,513	8,987,720	15,868,926	21,316,150	27,019,323	30,671,257	29,602,789	31,681,931	28
–	7,826,943	10,237,930	13,195,277	13,682,713	14,766,284	14,669,497	14,870,126	29
–	47,162,220	87,811,965	157,756,647	183,504,814	226,760,909	234,470,989	233,549,603	30
2,279,868,346	3,720,058,236	6,020,513,832	8,051,444,136	8,287,732,966	8,761,579,512	9,431,169,954	9,608,465,726	31
20,575,255	27,783,852	47,312,564	52,595,923	51,375,637	54,826,851	56,112,457	52,676,443	32
–	849,915,678	1,269,764,435	1,286,255,476	1,110,596,830	1,277,158,461	1,305,123,764	–	33
–	3,902,504	5,545,549	6,068,701	5,314,189	5,488,950	5,400,527	–	34
950,220,771	1,422,179,632	2,934,843,848	4,610,196,334	5,044,408,834	5,607,645,623	6,157,262,207	6,492,496,222	35
31,619,626	48,093,105	99,015,081	160,746,413	174,731,364	192,945,783	210,728,479	220,554,056	36
–	348,097,229	222,871,178	147,821,972	184,975,573	199,141,946	202,961,007	190,589,965	37
–	5,311,003	4,389,008	3,991,126	4,881,297	5,083,513	5,310,568	5,032,428	38
7,346,381	10,315,853	16,811,287	17,715,099	20,568,437	24,554,938	25,105,188	20,091,874	39
–	–	–	30,358,034	36,093,503	43,476,959	46,670,482	37,491,302	40
1,356,879	1,622,351	1,869,643	2,063,498	2,095,375	2,342,391	2,387,057	–	41
870,801	1,140,793	1,335,454	1,547,992	1,582,334	1,614,915	1,647,871	–	42
40,516	50,307	56,607	63,840	66,004	67,861	68,888	–	43
37,971,374	57,362,734	112,976,543	122,701,259	125,876,375	128,890,836	138,223,885	–	44

relate to the fiscal years ended June 30 up to 1906, and from then on to the years ended Mar. 31. Agricultural, dairying, fisheries (1922-26), mineral, manufacturing, banking, insurance, loan and trust companies statistics relate to the calendar years and railway statistics to the years ended June 30, 1871–1916, and to the calendar years 1921 and 1924–1928. Canal statistics are those of the navigation seasons. The telegraph statistics relate to the fiscal years for Government lines and to the calendar years for other lines.

CHAPTER I.—PHYSIOGRAPHY.

PART I.—GEOGRAPHICAL FEATURES.[1]

Situation.—The Dominion of Canada comprises the whole northern half of the North American continent except the United States territory of Alaska, and the Coast of Labrador, a dependency of the Colony of Newfoundland. It also includes the Arctic archipelago between Davis strait and the 141st meridian.

The Dominion is bounded on the west by the Pacific ocean and Alaska; on the south by the 49th parallel, the Great Lakes, the St. Lawrence river and additional lines set out by the Ashburton Treaty, signed Aug. 9, 1842; and on the east by the Atlantic ocean, the gulf of St. Lawrence, the territory of the Coast of Labrador (as defined by the award of the Privy Council, Mar. 1, 1927), and Davis strait. As regards the far north, Canada includes all the lands in the area bounded on the east by a line passing midway between Greenland and Baffin, Devon and Ellesmere islands to the 60th meridian of longitude, following this longitude to the pole, and on the west by the 141st meridian of longitude, following this longitude to the pole. The southernmost point is Middle island in lake Erie, in north latitude 41° 41′, while from east to west the Dominion extends from about west longitude 57°—at the southernmost point of the boundary with the Coast of Labrador—to west longitude 141°, the boundary with Alaska. Canadian territory thus extends over 84° of longitude and 48° of latitude.

Area.—The area of the Dominion (as revised on the basis of the results of recent explorations in the north) is 3,690,043 square miles, a figure which may be compared with that of 3,743,529 square miles for the United States and its dependent territories, 3,776,700 the total area of Europe, 2,974,581 the total area of Australia, 4,277,170 the total area of China inclusive of dependencies, 3,275,510 the area of Brazil, 1,802,577 the area of India, 121,633 the area of the British Isles and 13,491,977 the area of the British Empire. By comparison with the last two figures, Canada is seen to be over 30 times as large as the British Isles and to comprise over 27 p.c. of the total area of the British Empire.

Political Subdivisions.—Canada is divided from east to west into the following provinces:—the Maritime Provinces of Prince Edward Island, Nova Scotia and New Brunswick, all three comparatively small in area; Quebec, covering a strip south of the St. Lawrence and the whole territory north of the St. Lawrence and east of the Ottawa to Hudson strait, less the territory of the Coast of Labrador; Ontario, extending northward from the Great Lakes to Hudson bay; Manitoba, Saskatchewan and Alberta, the provinces of the interior continental plain, extending from 49° to 60° north latitude; and British Columbia, the province of the western mountain and Pacific Coast region, also extending from 49° to 60°. North of the 60th parallel of latitude, the country is divided into the Yukon Territory and the Northwest Territories, the latter area composed of the provisional districts of Mackenzie, Keewatin and Franklin.

Prince Edward Island.—This, the smallest province of the Dominion, lies at the south of the gulf of St. Lawrence and is separated from the mainland of the continent by Northumberland strait. It is about 120 miles in length and, with an average width of 20 miles, covers an area of 2,184 square miles, some 200 square miles more than the State of Delaware. The island is nearly cut into three parts by the deep indentation of Malpeque bay north of Summerside and again at Charlottetown by Hillsborough river, which nearly meets Tracadie bay on the north side. Its rich red soil and red sandstone formations are a distinct feature, and no point in the island attains a greater altitude than 306 feet above sea-level. A climate tempered by the surrounding waters of the gulf and yet free from the rigours of Atlantic storms, combined with a fertile soil and sheltered harbours, offers great inducements to the pursuits of agriculture and fishing. The province is noted for its relative predominance in the fox-farming industry, its lobster canneries, and its production of oats and potatoes.

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[1] Revised by J. E. Chalifour, Chief Geographer, and F. H. Peters, Director of the Topographical Survey, both of the Department of the Interior, Ottawa.

Nova Scotia.—The province of Nova Scotia is 381 miles in length by from 50 to 105 miles in width, a long and rather narrow strip of land lying parallel to the Maine and New Brunswick coast and joined to the latter by the isthmus of Chignecto. It includes at the north the island of Cape Breton, which is separated from the mainland by the narrow strait of Canso. The total area of the province is 21,428 square miles, a little over 2,000 square miles less than the combined area of Belgium and Holland. Cape Breton island, south of the main entrance to the gulf of St. Lawrence and sheltering Prince Edward Island from the Atlantic, is roughly 100 miles in length with an extreme breadth of 87 miles. Its area of 3,120 square miles encloses the salt-water lakes of Bras d'Or, connected with the sea at the north by two natural channels and at the south by the St. Peters ship canal. The ridge of low mountainous country running through the centre of the Nova Scotia mainland, and of which the highest altitude is less than 1,500 feet, divides it roughly into two slopes, that facing the Atlantic being generally rocky, and open to the sweep of Atlantic storms, while the other, facing the bay of Fundy and Northumberland strait, consists for the most part of fertile plains and river valleys, and is noted for its general farming and fruit farming districts which produce the famous Nova Scotian apples. The Atlantic coast is deeply indented with numerous excellent harbours many of which provided splendid homes and refuges for the old sail fishing fleets.

New Brunswick.—With a total area of 27,985 square miles, New Brunswick may be compared in size to Scotland with its area of 30,405 square miles. The province is very compact and in shape nearly rectangular, with its depth not greatly exceeding its width. The conformation is in general undulating and of low relief. In the southeastern half of the province the ground elevation does not generally exceed 500 feet above sea-level except for a narrow strip in the south which produces the highlands bordering the bay of Fundy east of Saint John. In the northwestern half the ground elevation is in general from 500 to 1,000 feet above sea-level and reaches its greatest elevation of over 2,700 feet in Northumberland county northeast of Grand Falls. The St. John, rising in the sister province of Quebec and the bordering State of Maine, is a river with many distinctive beauties, while its length of nearly 400 miles makes it quite noteworthy as to size. In the northeastern half of the province there are very extensive areas of Crown lands still carrying valuable stands of merchantable timber. While New Brunswick is essentially a part of the mainland, the bay of Chaleur at the north, the gulf of St. Lawrence and Northumberland strait at the east, the bay of Fundy at the south and Passamaquoddy bay at the southwest, provide the province with a very extensive sea-coast. To its southwest is a group of islands belonging to the province, the most important of which are Grand Manan, Campobello, and the West Isles. New Brunswick has been called the best watered country in the world; numerous rivers provide access to extensive lumbering areas in its interior and to many of the most attractive hunting and fishing resorts in the Dominion.

Quebec.—Quebec might with considerable accuracy be included among the Maritime Provinces, for the gulf of St. Lawrence is really a part of the Atlantic, and altogether salt water washes the coasts of the province for a length of over 2,700 miles. Besides including a narrow strip of land between the St. Lawrence and the International and New Brunswick boundaries, Quebec extends northward from the St. Lawrence and Ottawa rivers to Labrador and Hudson strait, covering over 17° of latitude and an area of 594,434 square miles, about 38 p.c. of which lies south of the isotherm of 60° mean July temperature. The combined areas of France, Germany and Spain are some 5,000 square miles less than the area of Quebec. The conformity of the surface of Quebec is in general that characteristic of the Precambrian rocks, being quite even in general but much diversified by minor hills and hollows. North of the St. Lawrence the land takes the form of a ridge, parallel to the river and rising from sea-level to the height of land at an elevation of from 1,000 to 3,000 feet and then descending gently again to the sea-level of Hudson bay to the northwest; but to the northeast the ridge carries its height to end abruptly in the high headlands of Labrador. South of the river the area is comprised of the St. Lawrence Lowlands between Montreal and Quebec which, rising to the east, produce the highest elevation in the province, of about 4,200 feet, in the Gaspé peninsula. With the exception of the treeless zone extending somewhat south of Ungava bay the whole of the province supports a valuable tree growth varying from the mixed forest in the southwest to the eastern and northern coniferous in the areas of higher latitude. Apart from its importance as the threshold of Canada and the gateway through which ocean vessels must pass on their way to the interior of the continent, Quebec is also noted for its natural resources. The extensive timber limits of its northern areas form the basis for the great pulp and paper industry of the present and the future. Its rivers, many of them as yet comparatively unknown, may be harnessed to supply over one-third of the electric power available in Canada. Its mineral deposits, particularly those of asbestos, have long been known for their quality and extent, while promising discoveries of copper and gold deposits have been made in Rouyn and the neighbouring townships in the western part of the province, and the fisheries of the St. Lawrence river and gulf are well known. Agriculturally, the climate and soil of the upper St. Lawrence River valley and the plains of the Eastern Townships are eminently adapted to general farming operations.

Ontario.—The province of Ontario is the section of the Dominion contained between the great international lakes and Hudson bay and between the western boundary of Quebec and the eastern limits of Manitoba. Its most southern point is in north latitude 41° 41′, which is a little further south than the northern boundary of the State of California, and its most northern in north latitude 56° 48′. The total area comprised within its limits, of which about 82 p.c. lies south of the isotherm of 60° mean July temperature, is 412,582 square miles, of which its water area of 49,300 square miles forms the unusually large percentage of nearly 12 p.c. The province is over 17,000 square miles greater in area than are France and Germany together, and when compared with the States to the south, Ontario is found to be almost equal in extent to the combined areas of the six New England States, together with New York, New Jersey, Pennsylvania, Ohio, Indiana, Illinois, Michigan and Wisconsin. Excepting in the southwestern part, the surface conformity of Ontario is influenced by the characteristics of the Precambrian rocks. In northern Ontario a large area with elevations of 1,000 feet or over adjoins the north shore of the Great Lakes and going north a short distance over the Height of Land the slope descends very gently to Hudson bay, which has a wide marginal strip less than 500 feet above sea-level. The highest point in Ontario is 2,120 feet, on the promontory at the northeastern corner of lake Superior. The whole province supports a valuable covering of trees, varying from south to north from the mixed forest to the eastern and northern coniferous. Many varieties of climate and soil are encountered, from the distinctively southern conditions found along the shores of lake Erie to the very different ones of Hudson and James bays. Ontario, of all the provinces of Canada, is the centre of the country's manufacturing life, owing to its abundant water-power resources and its proximity to the coal fields of Pennsylvania, but the many resources of its rural districts are not on this account neglected. Mining in the Sudbury, Cobalt and Porcupine districts is a thriving industry, the nickel coming from the Sudbury field amounting to 90 p.c. of the world's production, while most of the gold mined in Canada is found in the province. Fruit-farming in the Niagara district and general farming throughout the entire southern part of the province are carried on extensively under unusually favourable conditions, while timber, pulp and furs are among the most important products of more northern parts.

Manitoba.—Manitoba, the most easterly of the Prairie Provinces, and also the oldest of them in point of settlement, includes the area between Ontario on the east and Saskatchewan on the west. Its southerly limit is the International Boundary, while its northerly boundary is the 60th parallel of latitude and Hudson bay, where its coast of over 400 miles includes the harbour and port of Churchill. The total area of Manitoba, of which about 56 p.c. lies south of the isotherm of 60° mean July temperature, is 251,832 square miles—8,566 square miles greater than twice the total area of the British Isles. The conformity of the surface of Manitoba is quite even; commencing on the north with a strip perhaps 100 miles wide bordering on Hudson bay and less than 500 feet in elevation, the surface rises gradually towards the west and south. The bulk of the province has an elevation of between 500 and 1,000 feet, with the greatest height of 2,727 feet attained in Duck mountain, northwest of lake Dauphin. East and north of lake Winnipeg the Precambrian formation intrudes, producing a rock formation, but the remainder of the province is underlain with very fertile soil of great depth. The treeless prairie belt extends into the southwest corner of the province, but the greater portion of the developed area is in the grove belt characterized by groves of poplar interspersed with open prairie patches; to the north there are great areas of northern mixed forest, blending into the northern coniferous, which thins again to some treeless areas along the coast line farther north. The province has been regarded as typically agricultural, its southern lands being specially adapted to this form of industry.

Its northern districts, however, are of importance in the production of timber and also contain large mineral deposits, particularly of copper-gold ore. About three-fifths of the area of this province is underlain with the Precambrian rocks which have been found so rich in minerals in northern Ontario and Quebec.

Saskatchewan.—The central prairie province lies between Manitoba and Alberta; it reaches to the International Boundary on the south and its northerly limit is the 60th parallel of latitude, which divides it from the Northwest Territories. The area, of which about 89 p.c. lies south of the isotherm of 60° mean July temperature, is 251,700 square miles, but slightly less than that of Manitoba, and greater by 5,000 square miles than the combined areas of the British Isles and Norway. With the exception of a point of the Precambrian rocks jutting in from the east at the Height of Land well to the north and again covering a narrow strip along the northern boundary, the whole of the province is underlain with generally fertile soil of great depth. The greater part of the developed area in the south is comprised in the great treeless prairie belt, fringed to the north with a zone of poplar interspersed with open prairie, which gradually changes into the northern mixed forest covering all the northerly parts. Apart from the southern prairies, which are extraordinarily smooth, the surface topography is generally of low relief and with a general rising slope towards the west. The bulk of the province has a general elevation of between 1,000 and 2,000 feet, with the maximum elevation of about 4,500 feet on the eastern point of the Cypress hills in the southwest corner. The climate is quite different from that of Eastern Canada, with less precipitation and perhaps slightly more severe features than are encountered in many other parts of the country, but is nevertheless most favourable to plant and animal growth. The northern districts are abundantly watered by lakes and rivers, and rich in timber resources and have prospective mineral wealth, while the southern plains include a large portion of the wonderful western wheat fields.

Alberta.—Lying between Saskatchewan on the east and the Rocky mountains and the 120th meridian on the west, and bounded on the north and south by the Northwest Territories and the United States respectively, is the province of Alberta. Its area is slightly greater than that of Saskatchewan or Manitoba, comprising a total of 255,285 square miles, of which about 90 p.c. lies south of the isotherm of 60° mean July temperature. The area of the province is over 8,600 square miles greater than the combined areas of the British Isles and Norway. Like Saskatchewan the southern part of the province is comprised in the dry treeless prairie belt, changing to the north into a zone of poplar interspersed with open prairie, which again gives way to the northern mixed forest covering the northerly parts. The Precambrian rocks just touch Alberta at its northeast corner, so that excepting the fringe of mountainous country on its western border the whole of the province is underlain with arable soil of great depth. Alberta has two marked features: (1) the great valley of the Peace river, which has already resulted in the extension of settlement farther north than in any other part of Canada, and (2) the wonderful grazing lands in the foothills district, which, rising sharply on the west, commences the ascent which continues to the very peaks of the Rocky mountains. The southern half of the province, rising toward the west, lies at a general elevation of from 2,000 to 4,000 feet; but in the northern half the slope descends until elevations of well under 1,000 feet are reached at lake Athabaska in the northeast corner. Mount Columbia, with an elevation of 12,294 feet, is the highest point in the province. Considerable coal and oil mining are carried on; lumbering is important in the more mountainous western parts and in the north, while some ranching is still pursued in the less populous sections. The climate of Alberta is a particularly pleasant one, cooler in summer than more eastern parts of the country and tempered in winter by the "Chinook" winds.

British Columbia.—British Columbia, the most westerly province of the Dominion, comprises an area of 355,855 square miles, slightly less than three times the area of the British Isles. The predominant feature of the province is the parallel ranges of mountains which cover all of it except the northeast corner and produce a conformation characterized by high mountain ranges interspaced with valleys, many of which are extremely fertile, with climatic conditions well adapted to mixed agriculture or fruit growing. Apart from the smoother area in the northeast corner which extends up from the "Peace River Block" there is another notably large area of smoother terrain in the Stuart Lake district traversed by the Canadian National Railway running east from Fort George to Prince Rupert. The highest point in the province is Mount Fairweather (15,287 feet). The shore line of the Pacific is deeply indented with many inlets ideal for harbourage and with wonderful scenic aspects. With two ocean ports served by transcontinental railways British Columbia is well situated and equipped to carry on trade with the Orient, while its great stands of fir, spruce and cedar timber constitute a natural resource of great value. The province includes many islands of the Pacific, notably the Queen Charlotte group and Vancouver island; the latter with an area of about 13,500 square miles is noted for its temperate climate and abundant natural resources. The mines, timber, fisheries and agricultural resources of the province are remarkable for their quality and extent. The boundaries of the province extend from Alberta on the east to the Pacific ocean on the west and from the International Boundary, northward to the Yukon.

Yukon and Northwest Territories.—The vast area of 1,516,758 square miles is included within the boundaries of Canada's northern subdivisions, the Yukon Territory and the three provisional districts of the Northwest Territories. This is over twelve times the area of the British Isles, nearly half the area of the United States, and more than the combined areas of the Argentine Republic and Chile in South America. The northern territories are as yet largely unexplored and apart from the main through water routes are still unmapped in any accurate way. The territories are known to include mighty rivers like the Mackenzie and the Yukon and great inland bodies of water such as Great Slave and Great Bear lakes; but with the present paucity of accurate knowledge the situation is that the potentialities of this great area are at present unknown. There have been many indications of mineral wealth in the country, which are being added to as definite exploration advances, and the future may well reproduce the great gold rush to the Yukon in 1897. Because a large portion lies within the Arctic circle the tendency has been to associate with the Northwest Territories thoughts of ice and snow, but as our knowledge is increased the argument steadily gains more weight that what have been regarded in the past as the great barren lands of the north are more appropriately described as our great northern prairies. The opening of the port of Churchill, making the Hudson Bay coast of the district of Keewatin readily approachable, adds considerably to the transportation facilities, which previously have been confined to a regular steamboat summer route down the Mackenzie river. In the future it is likely that travel and transport by air will have a great influence in the further development of these territories, while a net of established radio stations already brings a large area within the realm of quick communication. The production of minerals in the Yukon in 1929 was valued at just under $3,000,000, while the value of the production of furs in the Northwest Territories in 1927-28 was over $2,000,000.

Summary of Land and Water Area.—The total land and water area of the Dominion, together with its distribution into provinces and territories, is shown in Table **1.**

1.—Land and Water Area of Canada, by Provinces and Territories, as in 1931.

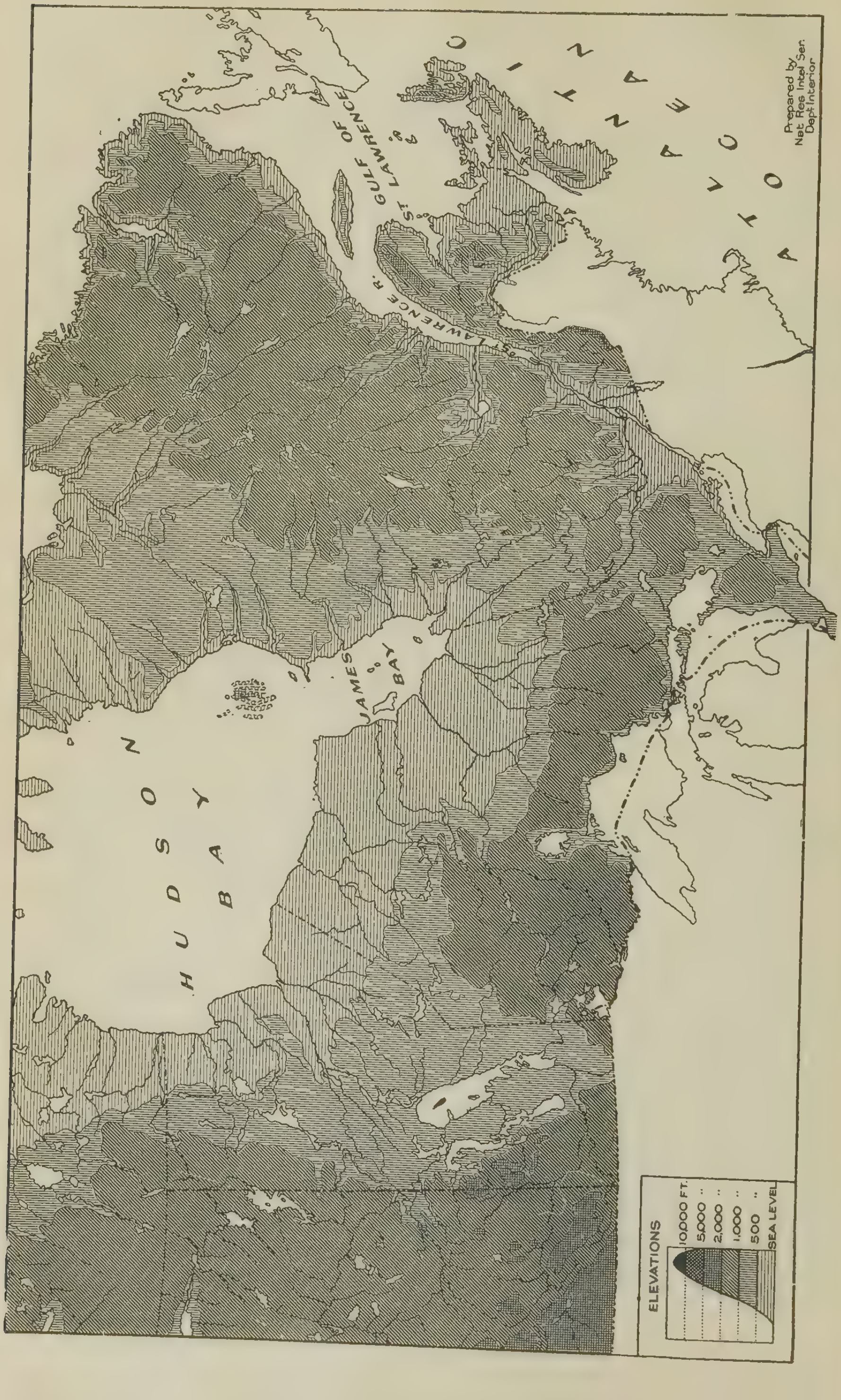
Province or Territory.	Land.[1]	Water.[1]	Total.[1]	P.c. of Total Area.
	sq. miles.	sq. miles.	sq. miles.	
Prince Edward Island	2,184	–	2,184	0·1
Nova Scotia	20,743	685	21,428	0·6
New Brunswick	27,710	275	27,985	0·8
Quebec	571,004	23,430	594,434	16·1
Ontario	363,282	49,300	412,582	11·2
Manitoba	224,777	27,055	251,832	6·8
Saskatchewan	237,975	13,725	251,700	6·8
Alberta	248,800	6,485	255,285	6·9
British Columbia	349,970	5,885	355,855	9·6
Yukon	205,346	1,730	207,076	5·6
Northwest Territories—				
Franklin	546,532	7,500	554,032	15·0
Keewatin	218,460	9,700	228,160	6·2
Mackenzie	493,225	34,265	527,490	14·3
Totals	**3,510,008**	**180,035**	**3,690,043**	**100·0**

[1] Approximate.

The water area, as given above, is exclusive of Hudson bay, Ungava bay, the bay of Fundy, the gulf of St. Lawrence and all other tidal waters, excepting that portion of the river St. Lawrence which is between Pointe-des-Monts and the foot of lake St. Peter, in Quebec.

Section 1.—Orography.

The conformation of the present surface of the North American continent admits of its apportionment, in Canada, into several orographic divisions. The exposed surface of the old Precambrian continent forms one of the largest divisions and has been called the Canadian Shield, the Archæan Peneplain and in its southern portion, the Laurentian Highland. The mountainous country of the west constitutes the Cordilleras, while the mountains of eastern United States, in their continuation across the border, form the Appalachian Highland of Eastern Canada. The Great Plains, with various subdivisions, occupy the area between the mountainous area of the west and the great roughened surface of the Canadian Shield. The St. Lawrence Lowlands lie between the Laurentian and Appalachian Highlands. Within the borders of the Canadian Shield an area on the southern margin of Hudson bay has been referred to as the "clay belt". It occupies a part of the basin that during the glacial period was submerged



OROGRAPHY OF EASTERN CANADA AND LABRADOR.

and covered with a coating of clay which smoothed over its inequalities and concealed most of the underlying rocks. Since its emergence the surface has been but slightly altered by drainage channels cut across it.

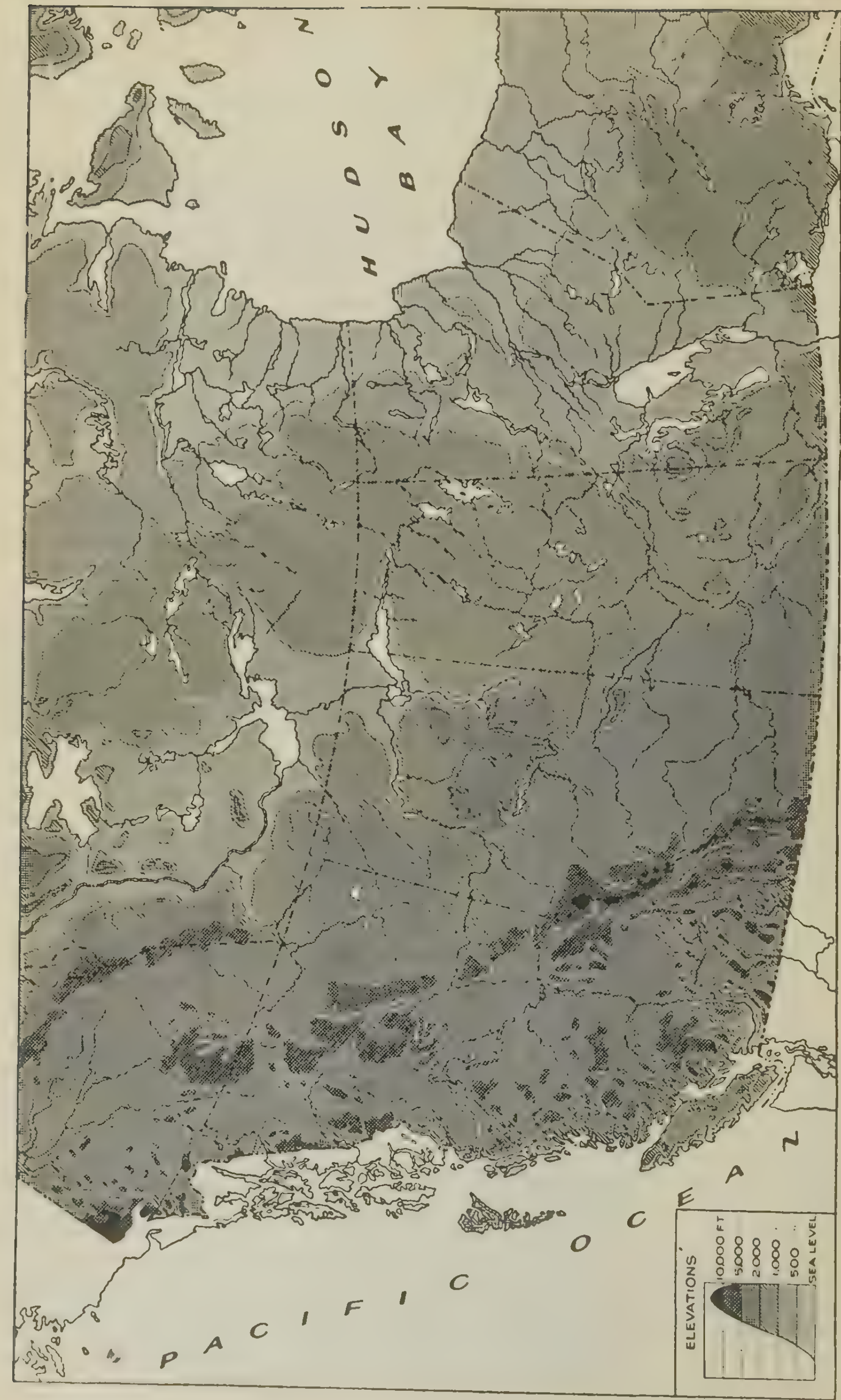
Orographical maps of Eastern and Western Canada, showing elevations above sea-level, will be found on pages 8 and 10 of this volume.

Canadian Shield.—The portion of the Precambrian continent whose exposed surface still forms a large part of Canada has an area of about two and a half million square miles. Its northern border crosses the Arctic archipelago and the eastern lies beyond Baffin island and Labrador and reaches the depressed area occupied by the St. Lawrence river, a short spur or point crossing this valley at the outlet of lake Ontario to join the Adirondack mountains in New York. The southern boundary runs from the spur west to Georgian bay, skirts the north shore of lake Huron and sweeps almost around the ancient depressed area occupied by lake Superior. The western edge, from the lake of the Woods and lake Winnipeg, bears northwest to the western end of lake Athabaska, and passes through the basins occupied by Great Slave and Great Bear lakes, reaching the Arctic ocean east of the Mackenzie River delta. In detail, the surface features of the Canadian Shield are irregular; but, viewed broadly, it has the conformation of a great plain, depressed toward the centre and in the north, and slightly elevated along the eastern and southern borders, where it presents a rather steep outward slope. The general elevation in the eastern portion is under 2,000 feet, and over the larger part of the plain is about 1,000 feet. The highest portion is along the northeastern margin, where it presents a steep face to the sea, rising to a maximum altitude of about 6,000 feet.

Appalachian Region.—The continuation of the Green mountains of Vermont into Canada may be traced in the Notre Dame mountains, which approach the St. Lawrence northeast of Quebec and, continuing with more easterly trend, form the highland of the Gaspé peninsula. Over a large part of the region, these hills hardly attain the dignity of mountains, but peaks rising more than 3,500 feet above the nearby coast are found in the Gaspé peninsula. The continuation of the White mountains of New Hampshire is found in the highlands of Maine and New Brunswick, the continuity being shown quite plainly by the rock-folding and other evidences of the great earth movements which caused the topography. An additional ridge apparently forms the present province of Nova Scotia, and although the highlands of that province rise to elevations less than 1,500 feet, the rock structure indicates that it was a mountainous country at no very remote geological period.

St. Lawrence Lowlands.—The southern interior of the continent consists of a plain of low relief, bordered on the east by the Appalachian mountains, on the west by the Cordilleran Mountain systems, and on the north by the Laurentian plateau. This plain, in its Canadian portion, is known as the St. Lawrence Lowlands, and extends from a short distance below Quebec city to lake Huron, south of Georgian bay, with a length of 600 miles and an area of 35,000 square miles. To the northeast it becomes reduced in width, and in the vicinity of Quebec is represented by a narrow plateau or shelf on each side of the St. Lawrence river.

Great Plains.—A great area, including diverse features, lies to the east of the Cordilleras. The portion that is included under the term Great Plains extends from the southwestern edge of the ancient surface, forming the Cana-



OROGRAPHY OF WESTERN CANADA.

dian Shield, to the eastern edge of the mountainous region of the Cordilleras. This area is characteristically different from other parts of Canada in that any exposure of surface rock is rare and generally it is overlain with great depths of soil, through which the streams have cut themselves down into deep coulees and the rivers into deep wide valleys. Lakes of any considerable extent are infrequent and usually quite shallow; in the dry prairie section there are many places where the absorption from the broad and shallow bodies of water is so great that they have little or no outflowage and consequently the concentration of mineral salts in the water makes it unfit for domestic use. The terrain is generally smooth or gently undulating and with elevations of from 600 to 3,500 feet has a general upward slope toward the south and west where, rising more sharply in the foothills, the real ascent to the high mountains commences.

Cordilleran Region.—The western part of the American continent is more or less mountainous. The Andean chain, which extends throughout the length of South America and broadens out in the United States has, in Canada, an average width of about 475 miles. This region, covering about 530,000 square miles, is the most elevated in the Dominion, many of the summits reaching heights of 10,000 feet, with occasional peaks over 13,000 feet above sea-level. The mountainous tract forming the Cordilleras can be divided broadly into three parallel bands; a series of plateaus and mountains, comprised in the Columbia, Interior, Cassiar, and Yukon systems, forming the central part, referred to as the Central Belt; another series of parallel ridges east of the central plateaus, formed of fault rocks and folds and including the Rocky and Arctic systems, known as the Eastern Belt; and a third division between the plateau country and the Pacific, composed of the Pacific and Insular systems, called the Western Belt.

Following is a list of the principal named Canadian Cordilleran peaks exceeding 11,000 feet in elevation:—

Province and Mountain Peak.	Elevation.	N. Lat.		W. Long.		Range.
	ft.	°	′	°	′	
Alberta—						
Alberta	11,874	52	14	117	36	Rocky Mts.
Alexandra[1]	11,214	51	59	117	12	"
Assiniboine[1]	11,870	50	56	115	42	"
Athabaska	11,452	52	07	117	11	"
Coleman	11,000	52	06	116	55	"
Columbia[1]	12,294	52	09	117	27	"
Deltaform[1]	11,235	51	18	116	15	"
Diadem	11,060	52	19	117	00	"
Forbes	11,902	51	48	116	56	"
Fryatt	11,026	52	33	117	54	"
Hector	11,135	51	34	116	15	"
Hungabee[1]	11,457	51	20	116	17	"
Joffre[1]	11,316	50	32	115	12	"
King Edward[1]	11,400	52	10	117	30	"
Kitchener	11,500	52	13	117	19	"
Lyell[1]	11,495	51	58	117	06	"
Lefroy[1]	11,230	51	22	116	17	"
Lunette[1]	11,150	50	52	115	39	"
Sir Douglas[1]	11,174	50	43	115	20	"
Snow Dome[1]	11,340	52	11	117	19	"
Stutfield	11,320	52	15	117	29	"
Temple	11,636	51	21	116	15	"
The Twins	11,675 12,085	52	13	117	12	"
Victoria[1]	11,365	51	23	116	18	"
Wilson	11,000	51	58	116	45	"
Woolley	11,170	52	18	117	25	"

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[1] These peaks are on the interprovincial boundary between Alberta and British Columbia.

Province and Mountain Peak.	Elevation.	N. Lat.		W. Long.		Range.
	ft.	°	′	°	′	
British Columbia—						
Bush	11,000	54	00	120	15	Rocky Mts.
Bryce	11,507	52	03	117	20	"
Clemenceau	12,001	–	–	–	–	"
Chown	11,500	53	26	119	26	"
Delphine	11,076	50	28	116	25	Selkirk Mts.
Fairweather[1]	15,287	58	54	137	31	St. Elias Mts.
Farnham	11,342	50	29	116	27	Selkirk Mts.
Goodsir	11,676	51	12	116	24	Rocky Mts.
Hasler	11,113	51	09	117	25	Selkirk Mts.
Huber	11,051	51	22	116	18	"
Jumbo	11,217	50	24	116	32	Rocky Mts.
King George	11,226	50	36	115	24	"
Resplendent	11,240	53	05	119	07	"
Robson	12,972	53	07	119	08	"
Root[1]	12,860	58	59	137	30	St. Elias Mts.
Selwyn	11,013	51	09	117	24	Selkirk Mts.
Sir Alexander	11,000	54	00	120	15	Rocky Mts.
Sir Sandford	11,590	51	39	117	52	Selkirk Mts.
The Helmet	11,160	51	11	116	20	Rocky Mts.
Whitehorn	11,101	53	08	119	16	"
Yukon[2]—						
Alverstone	14,500	60	21	139	02	St. Elias Mts.
Augusta	14,070	60	18	140	28	"
Baird	11,375	60	19	140	31	"
Badham	12,625	60	38	139	47	"
Cook	13,760	60	10	139	59	"
Craig	13,250	–	–	–	–	"
Hubbard	14,950	61	16	140	53	"
Jeannette	11,700	60	20	140	43	"
King	17,130	60	35	140	39	"
Logan	19,850	60	35	140	21	"
Lucania	17,150	61	01	140	28	"
Malaspina	12,150	60	19	140	34	"
McArthur	14,400	60	36	140	13	"
Newton	13,811	60	19	140	52	"
St. Elias	18,008	60	18	140	57	"
Steele	16,644	61	06	140	19	"
Strickland	13,818	61	14	140	45	"
Vancouver	15,696	60	21	139	42	"
Walsh	14,498	61	00	140	00	"
Wood	15,885	61	14	140	31	"

[1] These peaks are on the international boundary between British Columbia and Alaska.

[2] These peaks are on or near the Yukon-Alaska boundary.

NOTE.—The highest mountain east of the Rockies, with the exception of the Torngats in Labrador, peaks of which exceed 6,000 feet, is Tabletop mountain (recently re-named Mount Jacques Cartier by the Geographic Board of Canada) in N. lat. 48° 59′, W. long. 65° 56′, Gaspé district, Quebec, the summit of which is 4,350 feet above sea-level.

Section 2.—Rivers and Lakes.

General.—The waterways of Canada constitute not only one of its most remarkable geographic features, but one of the most vital elements of its national existence. The water area of 180,035 square miles is unusually large, constituting almost 5 p.c. of the total area of the country, whereas the water area of the United States forms but slightly more than 1½ p.c. of its area. The Great Lakes, with the St. Lawrence river, form the most important system of waterways on the continent and one of the most notable fresh water transportation routes in the world. Their value in facilitating the cheap and speedy shipment of grain from the Prairie Provinces cannot be overestimated. These lakes never freeze over, but usually most of their harbours are closed by ice about the middle of December and remain frozen over until the end of March or the beginning of April.

Drainage Basins.—The great drainage basins of Canada are the Atlantic (524,900 square miles), the Hudson Bay (1,486,000 square miles), the Arctic (1,290,000 square miles), the Pacific (387,300 square miles) and the Gulf of Mexico (12,365 square miles). Table **2** indicates the drainage areas of the more important rivers.

2.—Drainage Basins of Canada.

NOTE.—Owing to overlapping and to the fact that minor basins are omitted, the totals of each drainage basin do not represent an addition of the drainage areas as given. Tributaries and sub-tributaries are indicated by indentation of the names. The Gulf of Mexico basin is that part of the southern area of the Prairie Provinces drained by the Missouri and Mississippi rivers and their tributaries.

Drainage Basin.	Area Drained.
Atlantic Basin.	sq. miles.
Miramichi	5,400
St. John	21,500
St. Lawrence	309,500
Saguenay	35,900
St. Maurice	16,200
French	8,000
Nipigon	9,000
Ottawa	56,700
du Lièvre	3,500
Gatineau	9,100
Total	**524,900**
Hudson Bay Basin.	
Koksoak	62,400
George	20,000
Big	26,300
Eastmain	25,500
Rupert	15,700
Broadback	9,800
Nottaway	29,800
Moose	42,100
Abitibi	11,300
Missinaibi	10,600
Albany	59,800
Kenogami	20,700
Attawapiskat	18,700
Winisk	24,100
Severn	38,600
Hayes	28,000
Nelson	370,800
Winnipeg	44,000
English	20,600
Red	63,400
Assiniboine	52,600
Saskatchewan	158,800
North Saskatchewan	54,700
South Saskatchewan	65,500
Red Deer	18,300
Bow	11,100
Belly	8,900
Churchill	115,500
Hudson Bay Basin—concluded.	sq. miles.
Kazan	32,700
Dubawnt	58,500
Total	**1,486,000**
Pacific Basin.	
Yukon	145,800
Porcupine	24,600
Stewart	21,900
Pelly	21,300
Lewes	35,100
White	15,000
Alsek	11,200
Taku	7,600
Stikine	20,300
Nass	7,400
Skeena	19,300
Fraser	91,700
Thompson	21,800
Nechako	15,700
Blackwater	5,600
Quesnel	4,500
Chilcotin	7,500
Columbia	39,300
Kootenay	15,500
Okanagan	6,000
Kettle	3,160
Pend d'Oreille	1,190
Total	**387,300**
Arctic Basin.	
Back	47,500
Coppermine	29,100
Mackenzie	682,000
Liard	100,700
Hay	25,700
Peace	117,100
Athabaska	58,909
Total	**1,290,000**
Gulf of Mexico Basin	**12,365**

The St. Lawrence River System.—Most important of the lakes and rivers of Canada is the chain of the Great Lakes with their connecting rivers, the St. Lawrence river and its tributaries. This chain is called the St. Lawrence River system. The Great Lakes, separating the province of Ontario from the United States and connected by a series of canals with the St. Lawrence river, allow vessels drawing not over 14 feet of water to proceed from the Atlantic ocean to the interior of the Dominion as far as Fort William and Port Arthur, twin cities situated on lake Superior, practically half way across the continent.

Other River Systems.—Apart from the St. Lawrence, the great waterway of the eastern half of the Dominion, other systems also merit some attention. The Saskatchewan river, for example, flowing eastward from the Rocky mountains to lake Winnipeg and thence northward by the Nelson river into Hudson bay, drains a great part of the plains of the western provinces. In the north, the Mackenzie river, with its tributaries the Slave, Liard, Athabaska and Peace rivers, follows the northerly slope of the Great Plain and empties into the Arctic ocean, its waters having traversed in all a distance of 2,525 miles. The Yukon river, after draining a great part of the Yukon Territory, flows northward through Alaska into the Bering sea after a course of 1,765 miles. The Fraser, Columbia, Skeena and Stikine rivers flow into the Pacific ocean after draining the western slopes of the mountains of British Columbia. Table 3 gives the lengths of the principal rivers with their tributaries, classified according to the course taken by their waters.

3.—Lengths of Principal Rivers and Tributaries in Canada.

Note.—In this table the tributaries and sub-tributaries are indicated by indentation of the names. Thus the Ottawa and other rivers are shown as tributary to the St. Lawrence, and the Gatineau and other rivers as tributary to the Ottawa.

River.	Miles.
Flowing into the Atlantic Ocean.	
Natashkwan (to Labrador boundary)	160
Romaine	270
Moisie	210
Marguerite	130
St. John	399
Miramichi	135
St. Lawrence (to head of St. Louis, Minn.)	1,900
Manikuagan	310
Outarde	270
Bersimis	240
Saguenay (to head of Peribonka)	405
Peribonka	280
Mistassini	185
Ashuapmuchuan	165
Chaudière	120
St. Maurice	325
Mattawin	100
St. Francis	165
Richelieu	210
Ottawa	685
North	70
Rouge	115
North Nation	60
du Lièvre	205
Gatineau	240
Coulonge	135
Dumoine	80
South Nation	90
Mississippi	105
Madawaska	130
Petawawa	95
Moira	60
Trent	150
Grand	140
Thames	135
French (to head of Sturgeon)	180
Sturgeon	110
Spanish	153
Mississagi	140
Thessalon	40
Nipigon (to head of Ombabika)	130
Flowing into Hudson Bay.	
Hayes	300
Nelson (to lake Winnipeg)	390
Nelson (to head of Bow)	1,600
Red (to head of lake Traverse)	355
Red (to head of Sheyenne)	545
Assiniboine	450
Souris	450
Qu'Appelle	270
Winnipeg (to head of Firesteel)	475
English	330
Saskatchewan (to head of Bow)	1,205
North Saskatchewan	760
South Saskatchewan (to head of Bow)	865
Bow	315
Belly	180
Red Deer	385
Churchill	1,000
Beaver	305
Kazan	455
Dubawnt	580
Severn	420
Winisk	295
Flowing into Hudson Bay—concluded.	
Attawapiskat	465
Albany (to head of Cat river)	610
Moose (to head of Mattagami)	340
Mattagami	275
Abitibi	340
Missinaibi	265
Harricanaw	250
Nottaway (to head of Waswanipi)	400
Waswanipi	190
Rupert	380
Eastmain	375
Big	520
Great Whale	365
Leaf	295
Koksoak (to head of Kaniapiskau)	535
Kaniapiskau	445
George	365
Flowing into the Pacific Ocean.	
Columbia (total)	1,150
Columbia (in Canada)	465
Kootenay	400
Fraser	695
Thompson (to head of North Thompson)	270
North Thompson	185
South Thompson	120
Chilcotin	145
Blackwater	140
Nechako	255
Stuart	220
Porcupine	525
Skeena	335
Nass	205
Stikine	335
Alsek	260
Yukon (mouth to head of Nisutlin)	1,765
Yukon (int. boundary to head of Nisutlin)	655
Stewart	320
White	185
Pelly	330
Macmillan	200
Lewes	338
Flowing into the Arctic Ocean.	
Anderson	465
Horton	275
Mackenzie (to head of Finlay)	2,525
Peel	365
Arctic Red	230
Twitya	200
Liard	550
Fort Nelson	260
South Nahanni	250
Petitot	260
Athabaska	765
Pembina	210
Slave	265
Hay	350
Peace (to head of Finlay)	1,065
Finlay	250
Parsnip	145
Smoky	245
Little Smoky	185
Coppermine	525
Back	605

The Great Lakes.—Table 4 shows the length, breadth, area, elevation above sea-level and maximum depth of each of the Great Lakes. Particularly notable is the depth of lake Superior and the shallowness of lake St. Clair and lake Erie.

4.—Area, Elevation and Depth of the Great Lakes.

Lake.	Length.	Breadth.	Maximum Depth.	Area.	Elevation above Sea-level.
	miles.	miles.	feet.	square miles.	feet.
Superior	383	160	1,180	31,810	602·29
Michigan	320	118	870	22,400	581·13
Huron	247	101	750	23,010	581·13
St. Clair	26	24	23	460	575·62
Erie	241	57	210	9,940	572·52
Ontario	180	53	738	7,540	246·17

Lake Superior, with its area of 31,810 square miles, is the largest body of fresh water in the world. As the International Boundary between Canada and the United States passes through the centre of lakes Superior, Huron, Erie, St. Clair and Ontario, only a part of the areas of these lakes given in the above statement is Canadian. The whole of lake Michigan is within United States territory. From the western end of lake Superior to the mouth of the St. Lawrence there is, with the aid of the canal system, a continuous navigable waterway. The total length of the St. Lawrence waterway from the head of the St. Louis river in Minnesota to Pointe-des-Monts, at the entrance of the gulf of St. Lawrence, is 1,900 miles. The tributaries of the St. Lawrence, several of which have themselves important tributaries, include the Ottawa river, 685 miles long, the St. Maurice river, 325 miles long, and the Saguenay (to head of Peribonka), 405 miles long.

Other Inland Waters.—In addition to the Great Lakes, there are large bodies of inland water in other parts of Canada. Of these only the following principal lakes, with their respective areas, need be mentioned:—in Quebec, lake Mistassini (840 square miles); in Ontario, lake Nipigon (1,590 square miles); in Manitoba, lake Winnipeg (9,459 square miles), lake Winnipegosis (2,086 square miles) and lake Manitoba (1,817 square miles); in Saskatchewan, Reindeer lake (1,765 square miles); in Alberta, lake Athabaska (2,762 square miles). All these are within the boundaries of the provinces as at present constituted and are exclusive of lakes situated in the Northwest Territories, the largest of which are Great Bear lake (12,200 square miles) and Great Slave lake (11,170 square miles), in the district of Mackenzie.

Table 5 gives a list of the principal lakes of Canada by provinces, with the area of each in square miles. The table corresponds with the delimitation of the provinces as altered by the Boundary Extension Acts, 1912 (2 Geo. V, cc. 32, 40 and 45).

5.—Areas of Principal Canadian Lakes, by Provinces.

Province and Lake.	Area.
	square miles.
Nova Scotia—	
Bras d'Or	360
New Brunswick—	
Grand	65
Quebec—	
Abitibi, portion in Quebec	35
Albanel	145
Apiskigamish	392
Burnt	56
Champlain (total, 360), in Quebec	20
Chibougamau	138
Clearwater	410
Evans	180
Expanse	59
Gull	125
Great Long	110
Indian House	125
Kakabonga	66
Kaniapiskau	375
Kipawa	95
Lower Seal	130
Manikuagan	110
Manuan	100
Mattagami	88
Memphremagog, part in Quebec	28
Minto	485
Mistassini	840
Nichikun	150
Olga	50
Payne	300
Pipmakan	90
Pletipi	138
Quinze, Lac des	55
St. Francis, river St. Lawrence, part	63
St. John	375
St. Louis	57
St. Peter	130
Timiskaming, part in Quebec	55
Two Mountains	63
Upper Seal	260
Wakonichi	44
Waswanipi	75
Ontario—	
Abitibi, portion in Ontario	295
Dog	61
Eagle	128
Erie, portion in Ontario	5,094
Huron, including Georgian bay, portion in Ontario	13,675
Kesagami	90
La Croix, portion in Ontario	25
Long	75
Manitou, Kenora	60
Mille Lacs, Lac des	104
Muskoka	45
Nipigon	1,590
Nipissing	330
Ontario, portion in Ontario	3,727
Rainy (total, 324), in Ontario	260
Rice	43
St. Clair, portion in Ontario	270
St. Francis, river St. Lawrence, part	20
St. Joseph	200
Sandy	270
Seul	340
Simcoe	280
Sturgeon, English river	106
Ontario—concluded.	
Superior, portion in Ontario	11,200
Timagami	90
Timiskaming, part	55
Trout, English river	115
Trout, Severn river	215
Wanapitei	45
Woods, lake of the (total, 1,346), in Ontario	825
Manitoba—	
Athapapuskow	92
Atikameg	100
Cedar	452
Cormorant	141
Cross (Nelson river)	245
Dauphin	200
Dog	64
Etawney	546
Gods	319
Granville	207
Island	550
Kiskittogisu	122
Kiskitto	69
Kississing	112
Manitoba	1,817
Moose	510
Namew, part	9
North Indian	150
Nueltin, part	76
Pelican (west of Winnipegosis)	80
Playgreen	283
Reed	80
Red Deer, west of lake Winnipegosis	86
Reindeer, part	245
St. Martin	125
Setting	65
Sipiwesk	178
Southern Indian	1,200
Swan	100
Todatara, part	156
Waterhen	90
Wekusko	67
Winnipeg	9,459
Winnipegosis	2,086
Woods, lake of the, part	60
Saskatchewan—	
Amisk	111
Athabaska, part	1,700
Candle	56
Canoe	68
Churchill	213
Cold, part	36
Cree	350
Cumberland	93
Doré	200
Île-à-la-Crosse	187
Johnstone	123
Last Mountain	98
Little Quill	70
Loche, Lac la	70
Manitou	56
Montreal	162
Namew, part	73
Peter Pond	302
Plonge, Lac la	64
Primrose, part	173
Quill	151
Reindeer, part	1,520
Ronge, Lac la	450
Smoothstone	94
Wollaston	768

5.—**Areas of Principal Canadian Lakes, by Provinces**—concluded.

Province and Lake.	Area.	Province and Lake.	Area.
	square miles.		square miles.
Alberta—		**Northwest Territories—**	
Athabaska, part	1,062	Aberdeen	475
Beaverhills	76	Aylmer	345
Biche, Lac la	97	Baker	975
Buffalo	69	Clinton-Colden	225
Calling	53	Dubawnt	1,600
Claire	570	Franklin	175
Cold, part	100	Garry	980
Lesser Slave	448	Gras, Lac de	345
Peerless	75	Great Bear	12,200
Primrose, part	8	Great Slave	11,170
Sullivan	60	Kaminuriak	360
Utikuma	85	Macdougall	265
		Maguse	540
		Martre, Lac la	1,335
British Columbia—		Mackay	250
Adams	62	Nueltin, part	260
Atlin, part	280	Nutarawit	350
Babine	173	Pelly	331
Chilko	85	Schultz	110
François	87	Thoalintoa	160
Harrison	89	Todatara, part	85
Kootenay	220	Yathkyed	860
Lower Arrow	80		
Okanagan	135		
Owikeno	98	**Yukon—**	
Quesnel	100	Aishihik	107
Shuswap	124	Atlin, part	12
Stuart	140	Kluane	184
Tacla	135	Kusawa	56
Tagish, part	91	Laberge	87
Teslin, part	123	Marsh	32
Upper Arrow	120	Tagish, part	48
		Teslin, part	123

Section 3.—Islands.

The islands of Canada are among its most remarkable geographic features. They include the numerous unsurveyed and little-known areas of the Arctic regions, the fringe of both large and small islands off the Pacific coast, those of the Maritime Provinces and Quebec in the Atlantic ocean and the gulf of St. Lawrence, together with the islands of the Great Lakes and other inland waters. Of the Arctic islands, but little need be said. They are known to be of vast extent, Baffin, Victoria and Ellesmere, the three largest, being approximately 199,610, 80,450 and 78,400 square miles in area respectively, but Banks, Devon, Southampton, Somerset, Prince of Wales, Melville and Axel Heiberg are also of considerable size. Their economic possibilities, beyond scattered deposits of coal and other minerals, have not been established. The Pacific Coast islands, with the exception of Vancouver island and the Queen Charlotte group, are small and dot the western coast of British Columbia from Dixon entrance to the southern boundary of the province. Vancouver island is 285 miles long and from 40 to 80 miles broad, covering an area of about 13,500 square miles, the mountain range which forms its backbone rising again to form the Queen Charlotte islands farther north. These islands figure largely in the mining, lumbering and fishing industries of the West.

On the eastern coast of the Dominion are the island province of Prince Edward Island, the island of Cape Breton (an integral part of Nova Scotia), Anticosti and the Magdalen group, included in the province of Quebec, and the islands of Grand Manan and Campobello, part of the province of New Brunswick, in the bay of Fundy. Prince Edward Island is 2,184 square miles in area, Cape Breton 3,120, and Anticosti of about the same extent. Fishing activities in these eastern islands are important, while agriculture in Prince Edward Island and mining in Cape Breton are among the chief occupations of the inhabitants.

Manitoulin island in lake Huron and the Thousand Islands group in the St. Lawrence river, at its outlet from lake Ontario, are the more important islands of the inland waters.

PART II.—GEOLOGY.

Section 1.—Geology of Canada.[1]

The outstanding feature of Canadian geology is the vast area underlain by formations of Precambrian age. These occupy nearly the whole of Canada east of a line joining lake Winnipeg and Great Bear lake, with the exception of the Maritime Provinces, the extreme southern parts of Ontario and Quebec and a part of Ontario adjacent to the southern coast of Hudson bay. The Precambrian rocks include the oldest known geological formations and are the foundation of a part of the North American continent that has existed as a land mass for numerous long periods throughout all that portion of geological time that has been recorded in sedimentary formations exposed on the face of the earth.

Another prominent feature is the wide extent of nearly flat-lying sedimentary formations of Palæozoic, Mesozoic and Cenozoic age that almost wholly surround the Precambrian area. They form a mantle spread out on a sloping shelf of Precambrian rocks and for a time probably extended over a great part of the Precambrian area. In few places was there even fairly continuous sedimentation throughout the three great geological periods, and the succession of strata is in most places broken and incomplete.

Towards the Atlantic and Pacific coasts, the flat-lying sedimentary series gives way to great assemblages of folded sedimentary and volcanic rocks pierced by granitic bodies and forming the Appalachian system of mountains on the east and the great Cordillera on the west. In the folding, rocks of Precambrian age are brought to the surface. In the extreme north an analogous mountain range stretches from Greenland westward into Ellesmere island.

Subsection 1.—Topography.

The topography of Canada is the outward expression of geological processes that have been in operation at the surface of the earth and at depth throughout geological time. It is the imprint made by the deposition of sediments, the folding of strata, the intrusion of igneous masses, the ejection of volcanic material, and the dissolving, eroding and transporting of rock matter by surface agencies. The slow rising and sinking of broad continental areas, the forming of great mountain ranges and their gradual levelling, are all involved. The present land form is but a momentary expression of a continent that is undergoing eternal change.

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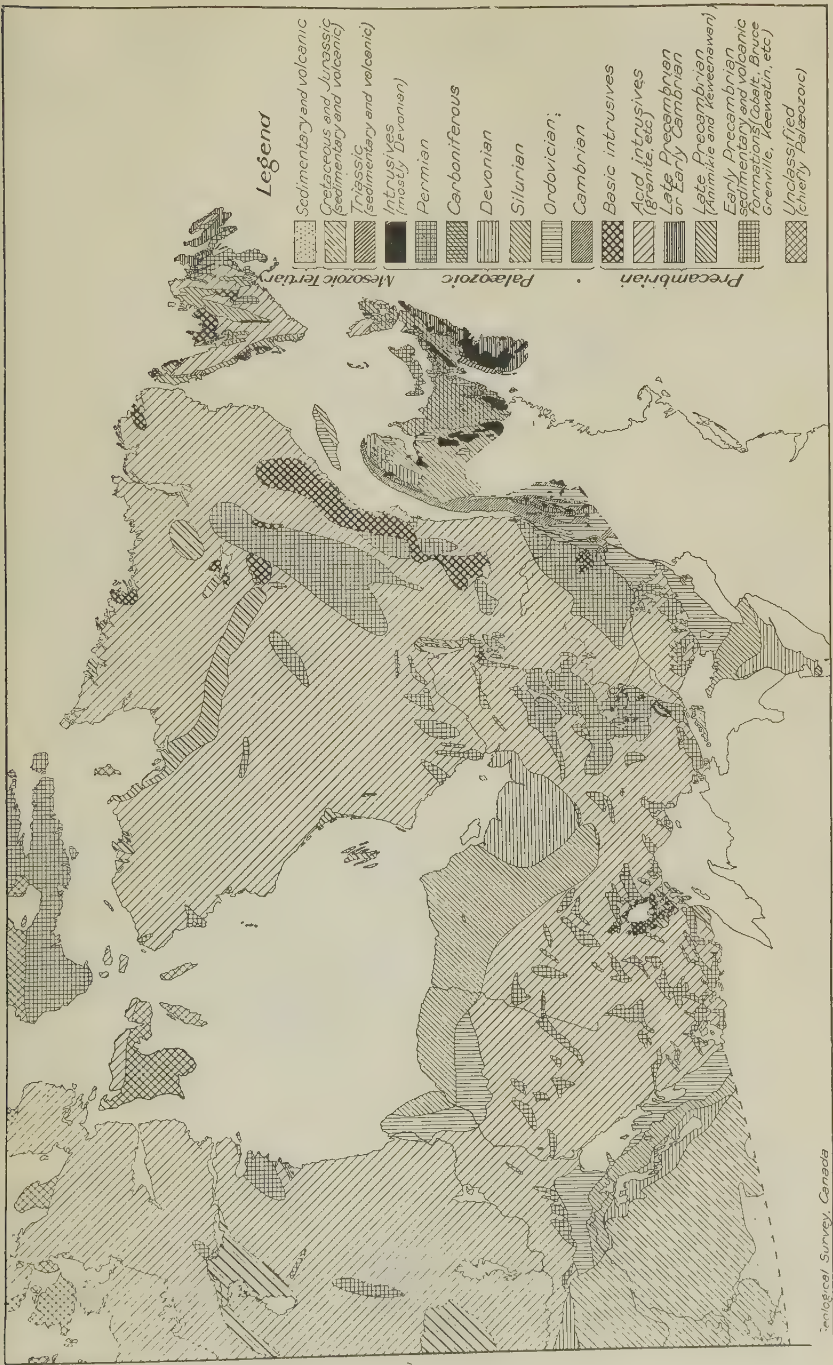
[1] By Wyatt Malcolm, M.A., Geological Survey, Ottawa.

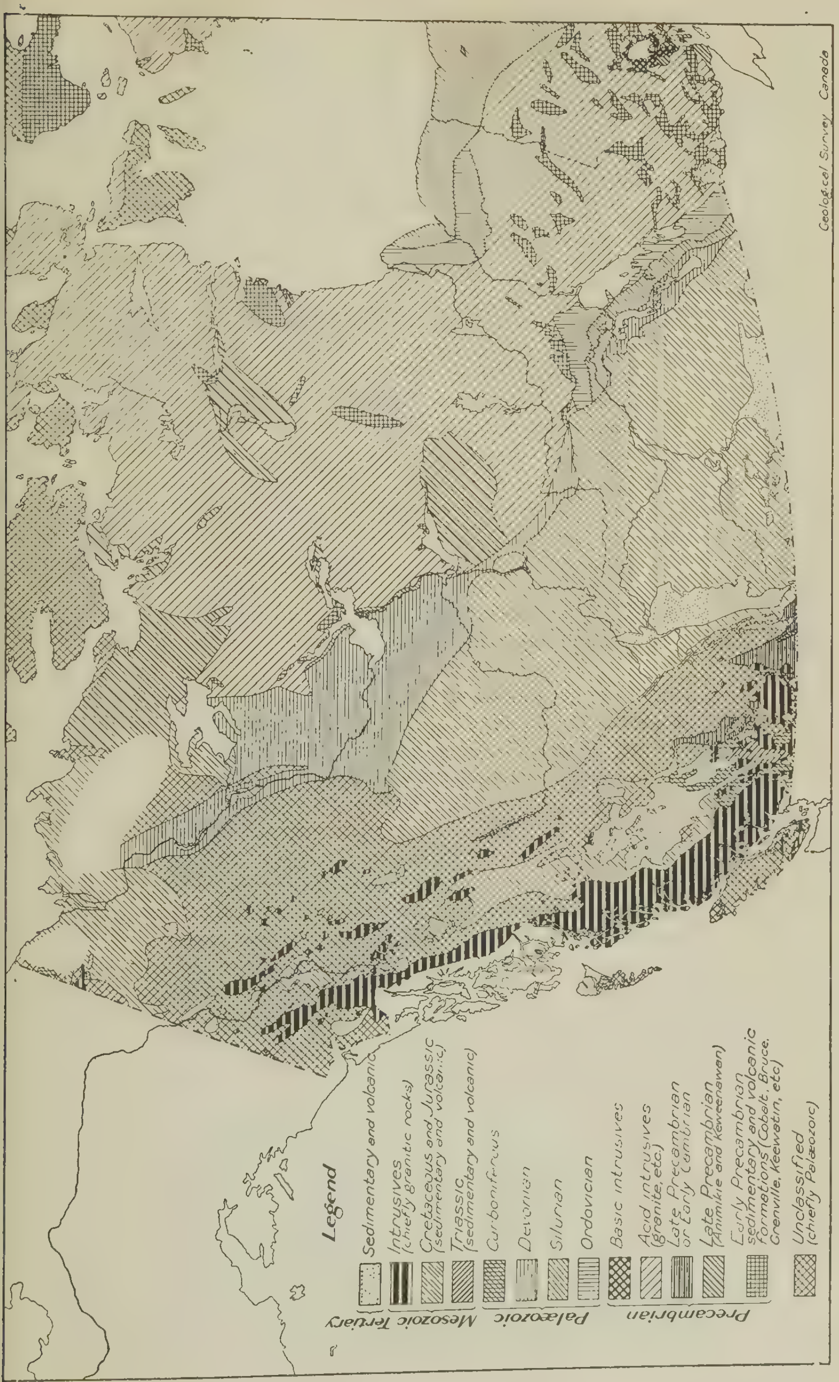

Legend
Mesozoic Tertiary
Sedimentary and volcanic
Cretaceous and Jurassic (sedimentary and volcanic)
Triassic (sedimentary and volcanic)
Palaeozoic
Intrusives (mostly Devonian)
Permian
Carboniferous
Devonian
Silurian
Ordovician
Cambrian
Precambrian
Basic intrusives
Acid intrusives (granite, etc)
Late Precambrian or Early Cambrian
Late Precambrian (Animikie and Keweenawan)
Early Precambrian sedimentary and volcanic formations (Cobalt, Bruce Grenville, Keewatin, etc)
Unclassified (chiefly Palaeozoic)
Geological Survey, Canada

GEOLOGY OF EASTERN CANADA AND NEWFOUNDLAND.

The great area in Eastern Canada underlain by rocks of Precambrian age is known as the Canadian (or Precambrian) Shield or the Laurentian Plateau. It may be regarded as a subdued plateau or perhaps, more strictly speaking, a peneplanated surface that has been rejuvenated by Pleistocene glaciation and uplift. Its average elevation probably does not exceed 1,500 feet, and except in the northeast there are few areas that exceed 2,000 feet. In general, the surface slopes gently to the surrounding plain and there are long stretches of the boundary in which there is no marked difference of elevation between the Precambrian Shield and the adjacent Palæozoic plain; there are other long stretches in which there is an abrupt rise of several hundred feet above the plain or the sea. The greatest known elevations are in the eastern part of Baffin island and along the coast of northern Labrador. In Labrador there are four peaks in the Torngats said to have elevations of 6,000 feet. The Torngats are carved from the edge of an elevated tableland which is highest towards the Atlantic and sinks towards the west. The coast is one of the boldest and most rugged of the world, with nearly vertical cliffs rising 1,000 to 2,000 feet in height. Though the Canadian Shield is an area of low relief and has a remarkably even sky line, the surface is generally rugged, with successions of rocky hills 100 to 200 feet high. Occasional exceptions occur in which there is a relief of several hundred feet, as in the hills on the north shores of lake Huron and lake Superior. The area is dotted with lakes, large and small, of irregular outline and with numerous islands. They are rock basins that spill their waters from one to another by short streams with rapids and falls. In an area of 250 square miles in western Ontario that cannot be considered exceptional, aerial surveys have shown that there are 700 lakes. There are well-defined deep trenches like that occupied by lake Timiskaming, related to faulting or other structural features. The Saguenay river flows in a trench that descends to more than 800 feet below sea-level, and lake Superior, the largest body of fresh water on the face of the earth, fills a basin in the Canadian Shield that reaches about 400 feet below sea-level.

Extending south and west from the Canadian Shield and limited on the east by the Appalachian Mountain system and on the west by the western Cordillera of America, is the great North American plain. The northeastern part of this plain occupies southern Ontario south of a line extending from Georgian bay to the east end of lake Ontario, that part of eastern Ontario lying between the Ottawa and St. Lawrence rivers, and the part of Quebec lying adjacent to the St. Lawrence between Montreal and Quebec and extending in a very narrow belt down the river, including Anticosti island. The part of the plain west of the Canadian Shield is of wide extent, and stretches northward to the Arctic ocean between a line approximately joining lake Winnipeg, lake Athabaska, Great Slave lake and Great Bear lake on the east, and the foothills of the Rocky mountains on the west.

Although these areas are but parts of one great plain and are disconnected in Canada only because the Canadian Shield happens to project across the International Boundary in a narrow belt east of lake Ontario and in a wide zone between lake Huron and the lake of the Woods, they will for convenience of treatment be considered separately. Those parts lying in the basin of the St. Lawrence and the Great Lakes have been designated the St. Lawrence Lowlands, while the western area has been named the Interior Plains.


Legend
Tertiary
Sedimentary and volcanic
Mesozoic
Intrusives (chiefly granitic rocks)
Cretaceous and Jurassic (sedimentary and volcanic)
Triassic (sedimentary and volcanic)
Palæozoic
Carboniferous
Devonian
Silurian
Ordovician
Precambrian
Basic intrusives
Acid intrusives (granite, etc.)
Late Precambrian or Early Cambrian
Late Precambrian (Animikie and Keweenawan)
Early Precambrian sedimentary and volcanic formations (Cobalt, Bruce, Grenville, Keewatin, etc)
Unclassified (chiefly Palæozoic)
Geological Survey Canada

GEOLOGY OF WESTERN CANADA.

The part of the St. Lawrence Lowlands lying in the eastern angle of Ontario and in Quebec south of Montreal, and extending down the St. Lawrence, is comparatively flat and lies less than 500 feet above sea-level. On the lower St. Lawrence it is greatly narrowed by the near approach of the Appalachian system to the Canadian Shield. The part lying adjacent to lakes Ontario, Erie and Huron is of less even surface, has its greatest elevation of over 1,700 feet south of Georgian bay, and slopes rather gently to the Great Lakes. A striking topographical feature is the Niagara escarpment. This is an eastward-facing escarpment having a height of 250 to 300 feet and extending from Niagara peninsula northwest to Bruce peninsula.

The Interior Plains region is in general a rolling country with broad undulations and a slope eastward and northward of a few feet per mile, descending from an elevation of 3,000 to 5,000 feet near the mountains on the west to less than 1,000 feet at its eastern border. The elevation of the Canadian Pacific Railway at Calgary is 3,439 feet and at Winnipeg 772 feet. The rolling character of the area is relieved by several flat-topped hills—erosion remnants rising hundreds of feet above the surrounding country—by flat areas that formed the beds of lakes of considerable extent, and by deeply incised river valleys. A striking feature is the broken escarpment of western Manitoba and eastern Saskatchewan, marking the rise of 400 to 1,000 feet from the Manitoba lowland to the upland of the west. A lowland of considerable extent stretches for some distance into Ontario and Manitoba from the south shore of Hudson bay.

The Arctic archipelago consists of large islands, many of which rise prominently from the sea as sloping tablelands, while others are comparatively low.

The Appalachian and Acadian regions occupy practically all that part of Canada lying east of the St. Lawrence, with the exception of the lowland west of a line joining Quebec city and lake Champlain. The Appalachian region is a continuation northward into the province of Quebec of three chains of the Appalachian system of mountains. The most westerly of these ranges stretches northeast into Gaspé peninsula, where it forms flat-topped hills over 3,000 feet high. Mount Jacques Cartier on Tabletop mountain has an elevation of 4,350 feet. The Acadian region, which includes New Brunswick, Nova Scotia, and Prince Edward Island, is an alternation of uplands and lowlands. The northwest part of New Brunswick is an upland with hills and ridges rising to 2,500 feet or higher. Adjacent to the bay of Fundy is a series of ridges rising in places to an elevation of 1,200 feet or more. Between these two New Brunswick uplands is a lowland forming the whole eastern coast of the province and converging towards the southwest. This lowland extends east so as to include Prince Edward Island, the western fringe of Cape Breton island and the mainland of Nova Scotia north of the Cobequid mountains, which have an elevation of 800 to 1,000 feet. South of them lies a long narrow lowland stretching from Chedabucto bay to Minas basin and along the Cornwallis-Annapolis valley between North and South mountains. South of this is a highland sloping to the Atlantic coast and having an elevation at its highest part of about 700 feet. The northern part of Cape Breton island is a tableland 1,200 feet high, culminating in Ingonish mountain with an elevation of 1,392 feet, the highest point in Nova Scotia.

The Cordilleran region, the mountainous area bordering the Pacific, extends northward from the United States through Canada into Alaska, and embraces nearly all of British Columbia and the Yukon and the western edge of Alberta and the Northwest Territories. The eastern part of the Cordillera is occupied by the Rocky mountains. They consist of overlapping chains with peaks rising to heights of 10,000 to 12,000 feet. They extend northwest and fall away towards the Liard river. North of this river the mountains with a similar trend lie 100 miles farther east and are known as the Mackenzie mountains. The western part of the Cordillera is occupied by the Coast range and the mountains of Vancouver and Queen Charlotte islands. The Coast range rises to heights of 7,000 to 9,000 feet. Between the Rocky mountains and the Coast range lies a vast plateau system having elevations of 3,000 to 4,000 feet, and cut by deep river valleys. The plateau region merges into rugged mountain ranges as it approaches the Rocky mountains; it also breaks into mountains in northern British Columbia, but becomes subdued to a plateau again in the Yukon. A striking feature of the Cordillera is the deep trench that lies immediately to the west of the Rocky mountains, extends northwesterly from the International Boundary into Yukon and is occupied by the headwaters of the Kootenay, Columbia and Fraser rivers and tributaries of the Peace and Liard rivers.

Subsection 2.—Geology.

Canadian Shield.—The Canadian Shield is underlain by rocks of Precambrian age. These consist of series of sedimentary and volcanic formations and igneous intrusives of great variety. They were subjected to mountain-building processes, folded, crushed and metamorphosed, and the mountains were reduced nearly to their present level before the earliest Palæozoic sediments were deposited. The Precambrian period was probably of greater duration than all the subsequent geological periods taken together.

Geologists do not agree on the main subdivisions of the Precambrian formations. There is one great unconformity, which represents a long period of erosion, and which divides the stratified rocks into two groups, the earlier group consisting of a great mass of volcanics with associated sedimentary rocks and the later group consisting more fully of sediments. The earlier group is greatly folded and altered; the later group has in general been less disturbed and altered. In the earlier group the most important series of rocks is that known as the Keewatin. The Keewatin consists essentially of lava flows accompanied in many places by tuffs and basic intrusives, and includes iron formation, which frequently is made up of thin layers of chert-like quartz, alternating with quartzose layers holding magnetite or hæmatite or both. Sedimentary rocks consisting of conglomeratic, sandy and slaty strata are frequently associated with the volcanics and are, in places, of considerable thickness and extent. They may underlie the volcanics, like the Couchiching of the Rainy Lake area; they may be interbedded with the volcanics, like the Doré formation of Michipicoten; or they may overlie the volcanics, like the Timiskaming formation of northeastern Ontario and western Quebec. Between the volcanic and overlying sediments of northeastern Ontario and western Quebec there is an unconformity that is regarded by some geologists as of major importance. The early Precambrian formations occupy numerous areas of various sizes up to several hundred square miles in western Quebec, northern Ontario, eastern and central Manitoba, and to a less degree in Saskatchewan and the Northwest Territories.

The later Precambrian formations consist in a large measure of sedimentary rocks—conglomerates, quartzites and slates. In an area lying immediately north of lake Huron and stretching northeast to beyond lake Timiskaming lies a succession of sediments known as the Huronian. These consist of: (a) the Bruce series, made up of conglomerates, quartzites and impure dolomitic limestone with an aggregate thickness of 2,700 to 12,000 feet; and (b) the Cobalt series, made up of boulder conglomerate and other materials probably of glacial origin, overlain by quartzite and calcareous quartzite, with an aggregate thickness of 12,000 feet. An erosion interval of considerable time intervened between these two series. These strata are undulating with gentle dips except on the north shore of lake Huron and eastward, where they stand at high angles and represent the core of an ancient mountain range that probably flanked the southern edge of the continent.

In the vicinity of Port Arthur there is a series of nearly horizontal strata, consisting of conglomerate, iron formation and slate. This is the Animikie series. It probably belongs to the Huronian system and may be equivalent in age to the Whitewater series north of Sudbury, consisting of conglomerate, volcanic tuff, slate and sandstone. East of Port Arthur the Animikie is overlain by the Keweenawan series of several hundred feet of red conglomerate, sandstone, shale, calcareous beds, tuffs and lavas.

Strata, presumably of late Precambrian age, are known to occur on lake Athabaska, Great Slave lake, east of Great Bear lake, on Belcher islands, on the east of Hudson bay and at other points in the Ungava peninsula. In the southern part of Ungava peninsula sediments are found that bear a resemblance to the Grenville-Hastings group of southern Quebec and southeastern Ontario.

The Grenville-Hastings group consists of closely folded, highly altered sediments intruded by, and in places interleaved with, granite. They are in general rusty-weathering banded gneisses, quartzose gneisses grading into quartzites, crystalline limestones, amphibolites, pyroxene-rich rocks and volcanic schists. Pegmatite dykes are common and anorthosite occupies large areas. The Grenville-Hastings group forms a belt in the southern part of the Canadian Shield, extending east from Georgian bay. The formations have not as yet been indubitably correlated with the Keewatin and Huronian rocks to the north.

The Precambrian sediments have suffered intrusion at various times by granites. These have been unroofed at different stages in the history of the Precambrian, and pebbles of granite are found in the conglomerates as early as those of Keewatin age. So complete has been the unroofing of the granites that they are exposed over the greater portion of the Canadian Shield. Basic intrusives were common in later Precambrian times. Sills and dykes of diabase cut the late Precambrian sediments around lake Nipigon, to the west of lake Timiskaming and at many other points. A thick laccolith is found in the Sudbury district.

The Canadian Shield was intensely glaciated during Pleistocene times, with the exception of the more elevated parts of the northern Labrador coast, and in general only a scant amount of soil was left, sufficient partially to conceal the rocks and maintain a forest growth. In some areas, as in part of northern Ontario and Quebec, adjacent to the Canadian National Railway, stratified fine sediments were deposited in lakes formed in front of the retreating glacier.

The Precambrian formations are prolific of mineral deposits of great number, variety and extent. These latter occur generally at or near the contact of the intrusives and the intruded rocks. Among them are the gold deposits of Porcupine and Kirkland Lake, associated with intrusions of porphyry, the silver deposits of Cobalt, South Lorrain and Gowganda, associated with diabase sills, the enormous nickel-copper deposits of Sudbury, associated with norite of a thick laccolithic intrusion, the auriferous copper sulphides of western Quebec, the copper-zinc sulphides of Manitoba, and the iron ores and iron pyrites of many localities of Ontario; in the Grenville-Hastings area are found deposits of galena, mica, graphite, feldspar, magnesite, fluorite, kaolin, molybdenite, talc and apatite.

St. Lawrence Lowlands.—The St. Lawrence Lowlands are divided into two parts by an arm of the Laurentian Plateau that extends southward into New York State, crossing the St. Lawrence between Kingston and Brockville. They are underlain by nearly horizontal Palæozoic sediments dipping gently away from the Canadian Shield and resting on the sloping surface of Precambrian rocks which, prior to the deposition of the Palæozoic strata, had been reduced to a physiographic condition similar to that existing on the Canadian Shield to-day.

The sediments are almost wholly of marine origin, consist mainly of limestone, magnesian limestone and shale, and range in age from late Cambrian to late Devonian.

In the Ottawa-Montreal division the latest strata are Ordovician; these, together with the Potsdam sandstone (Cambrian), have a thickness of about 6,000 feet. In the Great Lakes region of southern Ontario the Ordovician formations are succeeded upward by those of Silurian age and these in turn by strata of Devonian age. The Ordovician formations form a zone extending from Kingston to the Niagara escarpment and stretching northwest to Georgian bay and into Manitoulin island. The Silurian formations are exposed in the Niagara escarpment and westward in a belt 25 to 50 miles wide stretching northwest from Niagara peninsula into Manitoulin island. West of this nearly the whole of the area between lake Erie and lake Huron is underlain by Devonian limestones and shales. Each in turn is exposed over an area farther to the southwest than the older and underlying formation, so that in travelling westward from Kingston to Sarnia one passes over the bevelled edges of successively younger strata. Borings made at Courtright, in the township of Moore, show a thickness of nearly 4,260 feet of sedimentary rocks.

It is evident that the seas in which some of these sedimentary rocks were formed extended northward over the Precambrian rocks through Hudson bay into the Arctic ocean. The presence of outliers, on lake St. John, lake Nipissing, and lake Timiskaming in the south, and on lake Nicholson west of Hudson bay, of broad areas of Ordovician, Silurian and Devonian formations south of Hudson bay, and of Cambrian, Ordovician, Silurian and Devonian formations on the islands of the northern part of Hudson bay and of the Arctic seas, is clearly indicative of wide submergence. On the Arctic islands formations of Carboniferous (with coal seams) and Triassic ages are widespread, and there are patches of Tertiary sediments (with lignite). There is also evidence of the occurrence of rocks of Mesozoic age in Moose River basin.

The St. Lawrence Lowlands were covered by the glaciers of Pleistocene time, and the bedrock is to a great extent concealed by thick deposits of glacial till. In places are found stratified deposits that formed in lakes at the edge of the retreating ice sheet. Marine deposits were laid down in an arm of the sea that extended up the St. Lawrence and Ottawa valleys to a point above Ottawa.

The only intrusives worthy of mention are the igneous rocks of alkali types that form the Monteregian hills in southern Quebec, Mount Royal and seven others to the east. They are circular or oval hills that rise 600 to 1,200 feet above the plain and appear to be stock-like bodies or conduits that may have led to volcanic vents or larger masses of intrusives.

The mineral deposits are such as are usually found in the less altered sedimentary rocks. Petroleum has been produced in southern Ontario for 70 years; natural gas has been produced for 40 years in the counties bordering on lake Erie; salt has been obtained for a great many years from thick beds lying at a depth of about 1,000 feet in the counties bordering on lake Huron and lake St. Clair; gypsum is produced in the Grand River valley; limestone and dolomite, utilized in chemical and metallurgical industries, are widespread; materials for construction, for brick, tile and cement manufacture are abundant.

Appalachian and Acadian Regions.—The Appalachian and Acadian regions are composed of geological formations ranging from Precambrian through Palæozoic to Mesozoic. The Palæozoic sediments pass upward from dominantly marine formations into dominantly continental formations. A complete succession is not found and there are several hiatuses in sedimentation.

Sediments, probably of Precambrian age, occur in southeastern Quebec, southern New Brunswick, northern Cape Breton island and on the Atlantic coast of the mainland of Nova Scotia. The thick series of slates and quartzites, known as the Gold-bearing series, forms a belt occupying a very considerable part of the mainland of Nova Scotia, faces the Atlantic coast, and is probably of late Precambrian age.

During the Palæozoic period numerous disturbances took place in sedimentation; there were periods of uplift, of folding, and of erosion. Cambrian formations are found in southeastern Quebec, Ordovician formations are of extensive development in the Appalachian region from Vermont to Gaspé, Silurian and Devonian are well developed in Gaspé and the northwestern part of New Brunswick. Patches of Cambrian, Ordovician, Silurian and Devonian rocks are found in other parts of the Appalachian and Acadian regions.

The system of sediments most widely distributed in the Maritime Provinces is the Carboniferous. The formations are mainly of continental deposition although during Mississippian time a part of the area was submerged and received marine sediments. Towards the close of Devonian time there was a period of intense mountain building and igneous activity. Granite masses of large size were intruded in Nova Scotia and New Brunswick and of smaller size in Gaspé and southeastern Quebec. The upheaval was succeeded by intense erosion, and in early Carboniferous time granite masses were exposed by the removal of the overlying rocks.

The Carboniferous system occupies the triangular lowland forming much of the southeastern half of New Brunswick, the part of Nova Scotia north of Cobequid mountains, part of the lowland to the south of these mountains, southwestern and northeastern Cape Breton island and Prince Edward island. On Prince Edward island the Carboniferous may pass upward into the Permian. In the Carboniferous system are found the coal measures of Sydney and Glace bay, of Inverness, Pictou and Cumberland counties, Nova Scotia, and of the Minto coal field, New Brunswick. The extensive gypsum deposits and the salt beds of Nova Scotia and New Brunswick are found in a formation of Mississippian age, and the bituminous shales of New Brunswick and Nova Scotia are also of early Carboniferous age. The Carboniferous system has in places been subjected to folding and faulting, but considerable areas have suffered little disturbance since these sediments were laid down.

Sandstone and lava flows of Triassic age are exposed on the bay of Fundy, particularly on the south coast. North Mountain is composed of basic lava flows capping Triassic sandstone. During the Pleistocene period the whole of the Appalachian and Acadian regions, with the exception of the higher parts of Gaspé, were subjected to glaciation.

The most important economic minerals of the Appalachian and Acadian regions are coal, asbestos, and gypsum. Reference has already been made to the occurrence of coal and gypsum. Asbestos occurs in altered peridotite in southeastern Quebec. These are the most productive deposits of the world. Chromite also occurs in the peridotite. Auriferous quartz veins, mainly of the interbedded type, are found on domes and pitching anticlines of the Gold-bearing series of Nova Scotia. Zinc-lead deposits occur in the Devonian shales and limestones of Gaspé peninsula, zinc-lead-copper sulphides in the southern part of Cape Breton island in a series of lava flows, and copper deposits in southern Quebec.

Interior Plains.—The Interior Plains are underlain by a series of nearly horizontal sedimentary rocks of Palæozoic, Mesozoic and Tertiary ages. The Palæozoic rocks, consisting mainly of limestone, dolomite and shale of Ordovician, Silurian and Devonian ages, form a belt extending north through Manitoba and northwest through Saskatchewan and northeastern Alberta down the basin of the Mackenzie river. East of the Mackenzie, rocks of Cambrian age are exposed in an area of limited extent. The Palæozoic formations rest upon the gently-sloping shelf of the Canadian Shield and pass westward with a dip of a few feet a mile beneath the shales and sandstones of Cretaceous age. The Cretaceous formations occupy nearly the whole of the plain from western Manitoba to the Rocky mountains and extend northward nearly to the Mackenzie river. There are also large parts of the Mackenzie basin, particularly of the lower half, in which the Devonian limestones are overlain by Cretaceous sediments. The Cretaceous sediments vary from shales predominantly of marine origin in the east to sandstones predominantly of continental origin in the west. Between the two are alternations of shales of marine origin with sandstones of brackish water or fresh water origin.

The Cretaceous beds are overlain in places by sediments of Tertiary age. The most extensive Tertiary formations are found in the hills of southern Saskatchewan and in a belt running north through central Alberta, where they lie in a broad syncline. Glacial till is widespread and clays were deposited in large lakes formed on the retreat of the ice-sheet. A large part of southern Manitoba formed the bed of glacial lake Agassiz.

The Interior Plains region is the great wheat-producing area of Canada. The mining of coal is one of the important industries; bituminous coal and lignite are produced in large quantities in Alberta and lignite in smaller quantities in Saskatchewan. The Cretaceous sediments are the reservoirs of great quantities of natural gas, and these and underlying formations are the source of the oil of the Turner Valley and other oil fields of Alberta. Oil has also been struck in the Devonian rocks north of Norman on the Mackenzie river. Gypsum is obtained from the Palæozoic rocks of Manitoba and also occurs in northern Alberta.

Western Cordillera.—In the western Cordillera is a fairly complete succession of sediments of Precambrian, Palæozoic, Mesozoic and Tertiary ages.

The Rocky mountains consist of a series of great fault blocks in which an enormous thickness of Palæozoic and Mesozoic sediments is exposed. Many thrusts of great extent have resulted in an over-riding of the Mesozoic sediments by the Palæozoic, and the erosion of the softer strata of the former has produced longitudinal valleys between the harder Palæozoic blocks. The Palæozoic formations consist mainly of limestones with less amounts of sandstone and shale. A succession with few breaks from the Cambrian through the Ordovician, Silurian, Devonian and Carboniferous is found, and probably extends with certain deviations throughout the length of the Rocky mountains and Mackenzie mountains. Between the Cambrian and Precambrian beds there is apparently little angular unconformity, but the variation horizontally in the Precambrian strata, on which the Cambrian formations rest, and a similar variation in the ages of the over-lying Cambrian strata furnish evidence of a long period of erosion. The Mesozoic strata consist of soft shales and sandstones some of which are coal-bearing. Strata of Triassic, Jurassic, and Cretaceous ages are represented.

The mountains to the west of the Rocky Mountain trench in southern British Columbia are composed of a series of late Precambrian quartzites, slates and magnesian limestones of great thickness. There are wide areas in the vicinity of granitic intrusives in which intensive alteration of these sediments has taken place. The Precambrian rocks extend west as far as Upper Arrow and Shuswap lakes and north from the International Boundary probably half the length of the province. Quartzites, mica schists and crystalline limestones with interbands and broad areas of schists of various kinds and intrusive granite gneiss are found over a wide stretch of the Yukon plateau and are probably of Precambrian age. Slates, quartzites and conglomerates, also probably of the same age, occur in the northern part of the Alaska-Yukon boundary, in the Ogilvie range and in the Kluane district.

On the interior plateau of British Columbia, limestones, quartzites and argillites of Carboniferous age and known as the Cache Creek group are of wide distribution. These are succeeded upward by argillites and limestones and a great mass of volcanic intrusives and effusives of Triassic age, and these are succeeded by sediments and volcanics of Jurassic age. The Triassic and Jurassic formations are widely distributed, are found on the islands to the west, and some at least extend into the Yukon.

Formations of Cretaceous age are found on Vancouver and Queen Charlotte islands and in a belt extending up the Fraser and along the eastern edge of the Coast range into the Skeena valley. They are mainly formations of continental origin and carry coal seams, but also include sediments of marine origin and volcanics.

Very early Tertiary times were characterized by widespread orogenic disturbances in the Cordillera. The Rocky mountains were formed and there was much folding and faulting in places in the interior, followed by intense erosion. Tertiary sediments, partly of continental deposition with seams of lignite and partly of marine deposition, occur at many points throughout the interior of the Cordillera and on Vancouver island. Lava flows capping some of these sediments cover broad stretches of the interior plateau.

In Pleistocene time nearly the whole of the Cordillera with the exception of a large area in the Yukon was subjected to glaciation, and glaciation still persists in the mountainous regions. Volcanics of recent age are found in areas of limited extent.

An episode of great economic importance in the geological history of the West was the intrusion of the granitic rocks of the Coast Range batholith and of acid rocks at different points in the interior, particularly in the southern part of British Columbia in Mesozoic times. Many of the more important mineral deposits of British Columbia, such as the copper deposits of Hidden Creek, Britannia, and Allenby mountain, the gold-silver deposits of Salmon River district and the silver-lead deposits of the Slocan, had their origin in solutions given off by the magmas of these acid intrusives.

The lead-zinc deposit of the Sullivan mine lies in sedimentary rocks of Precambrian age. The Cretaceous and Tertiary formations carry seams of coal and lignite of great importance. There are economic deposits of other minerals in great variety throughout the Cordillera, and British Columbia is one of the leading mineral-producing provinces of Canada. The gold of the once famous Klondike region was found in placers of an unglaciated area and the gold of the Cariboo district occurs mainly in Tertiary placers that were unaffected or little affected by glaciation.

Section 2.—Economic Geology of Canada, 1929.*

The purpose of this paper is to call attention to the most important reports and articles treating of the economic geology of Canada and published during 1929. The particular articles here referred to, although recently published, do not necessarily contain the best and most complete information on the subjects treated; for further information it is advisable to consult the Dominion and Provincial Departments of Mines. The reference numbers appearing through the text indicate the publishers as listed at the end of this paper.

Asbestos.—In the Bulletin of the Geological Society of America, Stephen Taber described the chrysotile veins of southern Quebec. Evidence is presented to support the theory that the wall rock in immediate contact with the veins has been displaced as the veins were formed instead of being destroyed by replacement or re-crystallization.

Copper.—The Pueblo, Tamarack-Carlisle and War Eagle-Leroi copper properties,[1] Whitehorse copper belt, Yukon, were examined by W. E. Cockfield. The rock formations, in order of age, consist of limestone, porphyrite, granite, granodiorite, porphyry dykes and basalt. The principal ore bodies are of the contact metamorphic type and occur in limestone close to or adjoining the granite. Discoveries have also been made in the granite at a considerable distance from the contact. There are two types of ore bodies, those in which the copper is associated with magnetite and hæmatite and those in which the gangue consists chiefly of silicate minerals. Mineralization is patchy.

V. Dolmage studied the Gun Creek map area,[1] Lillooet District, British Columbia, and outlined the origin of the ores of Copper mountain,[5] Similkameen district, British Columbia. Cretaceous sediments and volcanics and

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* Contributed by P. J. Moran, B.Sc., Geological Survey, Ottawa, Ont.

Coast Range granodiorite and derivatives occupy the Gun Creek area. The important metals discovered so far are low grade copper-gold deposits situated in the batholith along the contact. A high grade copper and two gold deposits also occur in the area. The ore bodies of Copper mountain are situated along the contact of a stock composed of gabbro, diorite and other related rocks, thrust up through a series of steeply folded andesite and basaltic breccias. Large white felsite and quartz porphyry dykes cut the stock, breccias and ore bodies. The metallic content of the ore is believed to have originated in the magma of the stock. The deposit is low grade and of the contact metamorphic type. The ores, consisting of chalcopyrite and bornite in a gangue of andesite and basaltic breccia, are refractory.

H. T. James made a comprehensive report upon the Britannia Beach map-area,[1] Howe Sound, Vancouver mining division, British Columbia. The area is situated upon the western flank of the Coast Range batholith. Mesozoic sediments and volcanics are intruded by Jurassic sills, the Coast Range batholith, later basic and acidic dykes and finally by Tertiary basaltic dykes. The Mesozoic succession is represented by residual "roof pendants". In a shear zone about five miles long and 2,000 feet wide extending southeast from Tunnel camp to the batholith at Seymour creek, the only economic deposits are found. The principal minerals are pyrite, chalcopyrite and quartz, with subsidiary amounts in places of sphalerite, barite, anhydrite and galena.

Carl Lausen made a geological reconnaissance of the east end of Great Slave lake.[5] Precambrian rocks consisting of greenstones, granite gneiss, granite, syenite, diabase and sediments were noted. Copper mineralization was observed at different places, but no showings encountered would justify expenditure of money for development.

Copper-Nickel-Platinum.—C. V. Corless submitted a few suggestions relative to the origin of the Frood ore deposit.[5] Viewed broadly, this deposit, as far as developed, shows a steady diminution in rock matter and increase in sulphide content with depth, passing from "spotted norite" or "spotted diorite" in the upper levels, to practically clean sulphides at about 3,000 feet. To a depth of 2,000 feet the copper content is fairly uniform; below this depth, an increase is noted until at about 3,000 feet the chalcopyrite constitutes about 65 p.c. of the ore. Gold, silver and platinoids increase somewhat beyond the proportionate increase in base metals. It is pointed out that the above phenomena may probably result from a relatively sudden injection of a large body of fluid magma very rich in sulphides of iron, nickel and copper forced into the earth's crust along some local, not too far from vertical, plane of weakness. Such a body heavily loaded with sulphides encased between walls of rather low conductivity would probably remain fluid for sufficient time to effect the differentiation with depth which is being revealed by development.

A. P. Coleman, E. S. Moore and T. L. Walker present, in the University of Toronto Studies, the results of numerous chemical analyses of samples of rock, taken along several transverse sections across the Sudbury norite-micropegmatite intrusive, to prove that the two types of rock are resultant from magmatic differentiation and are not two separate intrusives, as is maintained by T. C. Phemister in a report published by the Ontario Department of Mines a few years ago. The authors also sum up the evidence that has from time to time been adduced with regard to the origin of the nickel-copper deposits and reaffirm their opinion that the sulphides in the main differentiated from the norite-micropegmatite sill by the action of gravity on an immiscible silicate-sulphide melt.

R. J. Watson examined the platinum bearing nickel-copper deposit of Lower Shebandowan lake,[3] Thunder Bay District, Ontario. Basic and acidic volcanics and sediments are intruded by two stages of granite. Intrusions of post-Timiskaming peridotite occur in the area. Some of the highly sheared peridotite is replaced by sulphides, calcite and dolomite. In this mineralized zone are found platinum-bearing nickel deposits.

Coal.—In the Report of the Scientific and Industrial Research Council of Alberta, R. L. Rutherford outlined the geology of the area between Athabaska and Lesser Slave lakes and the Peace hills, Alberta. LaBiche and Belly River beds of Upper Cretaceous age underlie the Athabaska-Lesser Slave Lake area. Upper Cretaceous and Lower Tertiary formations are found in the Peace hills. Notes upon coal, water supply, sand and gravel were made.

Brulé Mines coal area,[1] Alberta, was examined by B. R. MacKay, Bituminous and semi-bituminous coal seams totalling 26½ feet occur in intensely folded and faulted Lower Cretaceous measures. Commercial coal has only been found in the upper horizon.

Gordon L. Kidd submitted a few remarks upon the geology of the East Coulée coal area, Drumheller field,[5] Alberta.

A report upon the geology and economic deposits of Moose River basin[3] was made by W. S. Dyer. A succession from Precambrian, through Lower, Middle and Upper Devonian, Lower Cretaceous and Pleistocene is represented. Gypsum, lignite, peat, clay and shale are found in the area. Occurrences of sand, gravel and limestone are indicated and the possibilities of finding oil and gas are summarized.

The progress that has been made in delimiting the extent of and further tests that have been made upon lignite coals on the Abitibi river[1] were briefly outlined by A. R. R. Jones.

Fireclay, Kaolin and Silica.—W. G. Worcester described Saskatchewan clays[5] as regards classification of clays, geological age, and chemical and pyrophysical properties. Present developments of the White Mud clays are outlined.

R. J. Montgomery and R. J. Watson made a report upon the fireclay, kaolin and silica sand deposits of the Mattagami and Missinabi rivers,[3] Ontario. Sections and logs of test pits and holes and the results of extensive tests made upon the material of the deposits are given.

Graphite.—The graphite deposits of Louisa,[7] Wentworth Township, Argenteuil Co., Quebec, were described by George W. Bain. The main deposits are located near the contact of the limestone and greywacke and are on the flanks or crests of minor crumples on the major anticlines which bring the crystalline limestone to the surface. The graphite is flaky, massive or radiating but never columnar.

Gypsum and Salt.—Salt and gypsum occurrences in Alberta[5] are outlined by J. A. Allan. These deposits are believed to be Silurian or Devonian in age.

In the North Mountain area,[1] Cape Breton island, Nova Scotia, T. D. Guernsey found a pre-Carboniferous (possibly Precambrian) complex of ancient sedimentary and volcanic rocks intruded and metamorphosed by granite, basic and acidic dykes, together with a thick series of Carboniferous sediments, composed of conglomerate, limestone, gypsum, sandstone and shale in ascending order. The economic minerals of the area are limestone and gypsum.

W. A. Bell completed a stratigraphical and palæontological study of the Carboniferous-Windsor series of the Horton-Windsor area,[1] Nova Scotia. Bed rock ranges from Precambrian through Palæozoic to Triassic age. Bell outlines the derivation of and localizes the horizon in which gypsum and rock salt appear. A. R. Chambers discussed the genesis and uses of rock salt and the saline deposits of Nova Scotia.[5]

Gold.—In the *British Columbia Miner,* the staff of the Hedley Gold Mining Co. described the geology, ore deposits and mining and milling practice of the Nickel Plate mine,[5] Hedley mining district, Similkameen mining division, British Columbia. Contact metamorphic deposits of arsenopyrite, chalcopyrite and pyrrhotite in a gangue of lime-silicates occur in limestone near the junction with sills of white gabbro.

E. L. Bruce studied the Woman, Narrow and Confederation Lakes area,[3] Kenora district, Ontario. Highly metamorphosed Precambrian acid and basic volcanic flows with minor sediments are intruded by basic and acidic dykes and granite. Spectacular showings of gold and gold tellurides occur chiefly in lenticular quartz veins, with little impregnation of the wall rocks. In one or two cases, however, large low-grade zones, with gold in the walls, were observed.

The Pickle Lake-Crow River area,[4] Patricia district, Ontario, was described by M. E. Hurst. Keewatin greenstones, basic intrusives, schists and some sediments are intruded by granite and in places by tongues and irregular bodies of sheared quartz porphyry. Some gold-bearing quartz veins, mineralized with small amounts of pyrite, pyrrhotite, chalcopyrite, arsenopyrite and tourmaline occur in the vicinity of, and cutting, iron formation.

In the Thunder Bay district, Ontario, E. S. Moore studied Savant Lake area,[3] G. B. Langford the Beardmore-Nezah area,[3] and R. J. Watson the Huronian gold mines,[3] Moss township. Acidic and basic volcanics, sediments and iron formation are intruded by granite and related porphyries. Iron, gold, copper, lead, zinc and nickel are found in the Savant Lake area. Gold is found in quartz veins, disseminated in schists and in masses of sulphides in the iron formation. No economic deposits of iron have yet been discovered. The distribution of gold in the Beardmore-Nezah area is widespread. It is found in quartz veins, in greenstones, sediments and iron formation. The associated minerals are arsenopyrite, pyrite, pyrrhotite, chalcopyrite, sphalerite, galena, native copper and tourmaline. Graphite and asbestos also occur in the greenstones. At the Huronian mines, quartz veins follow a shatter zone paralleling a small porphyry dyke and carry chalcopyrite, pyrite, galena, sphalerite, tellurides and a little native gold. Generally the gold appears confined to the quartz and the wall rock is barren.

E. W. Todd made a comprehensive study of the Kirkland Lake gold area,[3] Ontario, outlining the general geology, structure, ore deposits, and mining operations. The bed rocks of the area consist of Keewatin volcanics and iron formation, Timiskaming sediments and volcanics, and Algoman acidic and basic intrusions. The veins are closely related to fissuring produced by fault movements and consist of sheared and brecciated rocks partially replaced by secondary minerals such as quartz carbonates, sericite and chlorite. Irregular masses of quartz fill openings through the crushed rock in the veins and the gold, accompanied by tellurides and sulphides, occurs in streaks and minute fractures in the masses of secondary minerals. Where the country rock is porphyry or red syenite, the structure consists of angular blocks of these rocks cemented together with gold-bearing quartz.

A revision of "Gold Fields of Nova Scotia"[1] was made by Wyatt Malcolm, bringing available information upon development of these gold deposits strictly up to date. Revival of interest in this field lends particular importance to the appearance of this work.

Placer Gold.—The history and future possibilities of placer mining in the Atlin district, British Columbia, was outlined by C. L. Monroe.[5] A number of creeks of known possibilities still remain unprospected. E. C. Annes and N. C. Stines, in the *British Columbia Miner,* describe the geology and operations in connection with the re-opening of the Bullion mine, Quesnel mining division, Cariboo district, British Columbia. The placer ground is located in a pre-glacial channel of the south fork of Quesnel river.

Lead-Zinc-Copper-Silver-Gold.—Recent developments in northern Quebec; the Sudbury district, Ontario; northern Manitoba and other areas have revived interest in the base metal possibilities of Canada and diverted prospecting effort to the search for these metals, with the result that important discoveries have been made. Pursuant to this increased activity, examinations of areas containing base metals have been made as follows:—

In British Columbia—Taku,[5] Tulsequah,[5] and Stikine[1] Rivers areas, by F. A. Kerr; Stewart-Bear River[1] and Alice Arm areas[1] by George Hanson; Topley map area[1] by George Hanson and T. C. Phemister; Finlay River area[1] by V. Dolmage; Slocan-Upper Arrow Lakes area[1] by C. E. Cairnes, and H. C. Gunning; Big Bend area[1] by H. C. Gunning; and Kootenay Lake area[1] by J. F. Walker; in the Northwest Territories—Pine Point area,[5] Great Slave Lake district, by J. Mackintosh Bell; in Manitoba—Sherritt-Gordon properties, by J. F. Wright,[1] E. L. Bruce[7,6] and R. C. Rowe[4]; in Ontario—Ben Nevis, Kamiskotia, Boston Creek and other areas[3] in Cochrane and Timiskaming districts, by T. L. Gledhill; Ranger Lake, Garden River and other areas[3] in the vicinity of Goudreau and Sault Ste. Marie, Algoma district, by M. E. Hurst; Woman River-Ridout area,[1] by R. C. Emmons and Ellis Thomson; in Quebec—Central Gaspé area,[1] by F. J. Alcock; and in Nova Scotia—the Sterling mines,[5] Richmond Co., by R. E. Legg.

Kerr found in the Stikine River area, pre-Permian metamorphosed sediments and volcanics, and later sediments and volcanics reaching to the Pleistocene. Part of the series is intruded by a composite batholith which was active from early Triassic through the greater part of the Mesozoic. Mineral deposits of great diversity in type occur in different horizons approximate to the granite intrusion. Important discoveries of silver-lead-zinc, with some copper-gold and placer gold, were made.

In the *British Columbia Miner,* Kerr indicates that the general geology of the Taku and Tulsequah is similar to that found along the Stikine. Replacement deposits of chalcopyrite, galena, zinc blende and pyrite, carrying gold and silver values, were observed. The gold is associated mainly with chalcopyrite and the silver with galena.

The ore bodies of the Stewart-Bear River map area and of the Alice Arm area, as described by Hanson, lie in the belt of mineralization fringing the eastern limit of the Coast Range batholith. Most of the deposits of the Stewart-Bear River area are in vein form; some of the larger are replacement bodies. The majority contain lead, zinc, silver and some gold; a smaller number contain copper and some gold. In the Alice Arm area occur molybdenite veins, high grade silver veins with quartz gangue in argillite, silver-lead veins with quartz-pyrite-calcite gangue in volcanics, sphalerite veins with quartz-calcite gangue in sedimentary rocks and chalcopyrite veins with quartz in volcanics.

Promising deposits of lead-zinc-silver in a quartz-siderite gangue in limestone adjacent to an irregular mass of vein quartz, and deposits of chalcopyrite in a quartz gangue, were observed by Dolmage in the Finlay River area. Schists, sediments and volcanics are intruded by granodiorite. Later sediments and volcanics are also found in the area. Pale amber muscovite in large underformed crystals is found in pegmatite dykes cutting Precambrian and possibly Carboniferous rocks. Development of mica occurrences is encouraging.

Pre-Jurassic granitic rocks, Jurassic sediments, volcanic flows, dykes and sills in the Topley area, are described by Hanson and Phemister. Replacement deposits and veins of sulphides, including chalcopyrite, galena, tetrahedrite, sphalerite, carrying gold and silver and veins containing galena and chalcopyrite, in barite and carbonate gangue, are found.

Cairnes and Gunning reported the Slocan-Upper Arrow Lakes area to be underlain by a complex assemblage of Precambrian and Mesozoic rocks. Some lead and silver mineralization was observed but no outstanding mines have yet been developed. A deposit of pyrrhotite and pyrite, carrying zinc and some lead, occurs in the extreme northwestern part of the area and is known as the Big Ledge property.

Altered Precambrian sediments, greenstones and granite intruded by Mesozoic granite were studied by H. C. Gunning in the Big Bend area. Gold-quartz, quartz-tetrahedrite, copper, lead-zinc, placer gold, stannite, asbestos, talc and mica were found. Zinc-lead deposits, which are the most important, are of two types—in one type pyrrhotite occurs with low silver-gold values and in the other type pyrite is developed with the silver values high but the gold values low.

In the Kootenay Lake area, J. F. Walker described the silver-lead deposits which are associated with pyrrhotite, pyrite, arsenopyrite and chalcopyrite in quartz limestone gangue. The ores occur as irregular pipe-like replacements in limestone.

Vertical and highly inclined irregular masses of galena, zinc blende and pyrite occur in lines parallel to joint planes in Presqu'île dolomite of Devonian age, along eroded shattered axes of low anticlinal folds near Pine Point, Great Slave Lake district. The deposits, as described by J. Mackintosh Bell, show evidence of considerable oxidation to the greatest depth reached in prospecting.

Sink holes characterize the outcrop. Acid and basic gneisses of sedimentary origin intruded by granite and later pegmatites are found in the Sherritt-Gordon area, Manitoba. Elongated sulphide lenses are developed, according to Wright, in fracture zones along a drag fold in acid gneiss close to basic gneiss. The ore consists of coarse-grained pyrrhotite, chalcopyrite, sphalerite and marcasite, associated with quartz, amphibole, chlorite, garnet and biotite.

In the Cochrane, Timiskaming and Algoma Districts, Ontario, studied by Gledhill and Hurst, irregularly-shaped large and small replacement bodies of sulphides carrying one or more of the minerals, chalcopyrite, sphalerite, galena, gold and silver, occur in schistose areas in Precambian rocks. Other mineralized schistose zones traversed by quartz veins containing some or all of the abovementioned minerals were observed by Gledhill and Hurst.

In the Woman River-Ridout area, described by Emmons and Thomson, the early Precambrian iron formation, which in the past was examined as a possible source of iron ore and iron pyrites, was examined with regard to its associated deposits of lead, zinc and copper sulphides. These occur in veins that are in general parallel to the bedding of the iron formation, with minor cross veins.

The zinc-lead fields of Gaspé were re-studied by Alcock. The veins of sphalerite and galena in a quartz-carbonate gangue occur in Lower Devonian argillites, limestones and tuffs and are believed to be genetically related to deep-seated intrusive rocks of the area.

Legg described the geology of the Sterling mine as consisting of irregular bodies of intimately mixed sulphides, sphalerite, galena, chalcopyrite and pyrite deposited along lines of weakness in a carbonated shear zone in Precambrian rhyolites.

Oil and Gas.—Thos. G. Madgwick outlined the oil and gas situation in the Prairie Provinces,[5] sketching the geology, formations and productive horizons encountered in wells, some outstanding problems in the development of the fields and in bringing wells into production, and gave a summary of operations to the end of 1928.

In the "Transactions of the Royal Society of Canada", R. C. Wallace and G. C. McCartney call attention to the importance of heavy minerals in sand horizons in Manitoba and western Saskatchewan. The progress of examination of these sands to date has shown that there is a likelihood, through detailed work over the whole field, of identifying horizons by means of the heavy mineral content of drill-hole samples.

W. P. Campbell[5] described waters encountered in deep drilling and points out the necessity of having the water-flow into the well shut off effectively as the well is being drilled. A high chloride content is generally a character of deep water. Sulphates and bicarbonates with little chloride indicate surface or shallow waters. Concentration increases with depth.

The stratigraphy of Eastend area, Cypress hills and a portion of southern Saskatchewan[1] was examined by F. H. McLearn. In the Eastend area there do not appear to be any important structures favourable for oil and gas accumulation, and examination has not yet reached the point in southern Saskatchewan where predictions as to oil and gas possibilities may be made.

A preliminary report upon the geology and oil explorations in Cape Breton island was made by the Eastern Gulf Oil Company in the Nova Scotia Report on Mines. There is evidence in Cape Breton island that oil and gas at one time were present. In some parts, structure and other factors give reason to hope that commercial quantities of oil may exist. A program of preliminary drilling to locate favourable structure must first be made before deep holes are projected.

Peat.—An examination of peat bogs in southwestern British Columbia,[1] made by A. Anrep, revealed a number in the vicinity of Vancouver suitable for the manufacture of peat litter and mull.

Vaino Auer discussed some of the problems of peat bog investigation in Canada.[1] He stated that peat bogs in the Dominion should be examined and classified from a number of different points of view, *i.e.*, peat as a fuel, peat as litter, and reclaiming bogs for agriculture and reforestation.

Phosphate.—J. A. Allan, in the Report of the Scientific and Industrial Research Council of Alberta, reports upon an investigation of the possible occurrence, in the Jasper Park area, of phosphate and other minerals that are known to occur in rocks of the same age in other parts of the mountains and on the south shore of Great Slave lake. Some shale beds are distinctly phosphate, but no high grade horizons were observed.

Silver-Gold.—The Horn silver mine,[1] Similkameen district, British Columbia, was examined by H. S. Bostock. Metamorphosed sediments consisting of phyllites, mica schist and quartzite are intruded by a large body of alkali syenite. Several bodies of hornblende and various dykes of rock types allied to the alkali syenite are found. The ore deposits are apparently embodies in one main fissure vein cutting through the country rock. The vein may be pictured as a sloping sheet, gently warped, and divided into numerous slabs by faults which offset them in irregular, step like manner. The vein consists of a gangue of quartz in which pyrite, sphalerite, chalcopyrite, galena, tetrahedrite, hæmatite, native silver, calcite, and sometimes arsenopyrite are disseminated in variable amounts. Gold values are also present in the ore.

Tin.—The Snowflake tin-silver vein,[4] Big Bend area, Revelstoke mining division, British Columbia, was described by V. Dolmage. Precambrian metamorphosed sediments and volcanics are intruded by Mesozoic granite and associated rocks. The veins occur in black, highly carbonaceous (in places graphitic) argillites. Stannite occurs in a quartz gangue associated with pyrite, galena, zinc blende, tetrahedrite, scheelite, wolframite, ruby silver, chalcopyrite and native silver.

Zinc.—The staff of the British Metal Corporation (Canada), Limited, outlined the geology, and mining and milling practice at the Tetreault mine,[5] Montauban Township, Portneuf County, Quebec. Grenville quartzites, gneisses and dolomitic limestone are intruded by amphibolite and granite. The ore consisting of an intimate mixture of sphalerite, galena, pyrrhotite, pyrite and a little chalcopyrite, carrying silver and gold values, is confined to altered limestone and occurs along the footwall contact with a gradual dissemination to the hanging wall.

Sources of Reports and Articles Referred to in the Text.

[1] Geological Survey, Department of Mines, Ottawa; [2] Mines Branch, Department of Mines, Ottawa; [3] Department of Mines, Toronto, Ont.; [4] Canadian Mining Journal, Gardenvale, Quebec; [5] Canadian Institute of Mining and Metallurgy, Drummond Building, Montreal; [6] Engineering and Mining Journal, New York; [7] Economic Geology, New Haven, Conn.

III.—SEISMOLOGY IN CANADA.[1]

Seismology—the branch of science which treats of earthquakes—has received considerable attention in Canada during recent years. It has been generally recognized that earthquakes are frequent in regions of adjustment of strata and are characteristic of the newer mountain and coast regions where abrupt changes in level are present. Seismological researches, while recording their location, duration and intensity, seek to determine particular causes. They ascertain the physical properties of the earth's crust and interior, as revealed by the peculiarities of the recorded waves after their passage through the earth. Instruments as developed by seismological research for the better recording of earth tremors are being used commercially in many ways, not the least important being for the mapping out of underground densities, in order to locate minerals and oil without frequent and expensive borings.

During the years for which records are available, Canada has been but slightly affected by earthquakes. Historically, a record shows that the St. Lawrence valley was shaken by a great quake in 1663. From time to time other shocks have been felt in that region, notably in 1870 and again on Feb. 28, 1925. In 1899 a great disturbance shook Alaska at Yukatat bay, very close to Canadian territory. On June 28, 1925, an earthquake in Montana, caused tremors which were felt in Alberta. The most serious earthquake for more than two centuries was the St. Lawrence tremor of Feb. 28, 1925. Although very widely felt it cannot be classed as a seriously destructive earthquake such as are experienced in more seismic regions. On November 18, 1929, a serious earthquake occurred about 300 miles south of Newfoundland, the tidal wave from which caused considerable destruction in Newfoundland. This earthquake was felt throughout Eastern Canada, as far west as Ottawa. Considerable damage was caused to the cable lines crossing the disturbed area.

At present five seismologic stations, all maintained by the Dominion Government, are in active operation in Canada, and are situated at Halifax, Ottawa, Toronto, Saskatoon and Victoria. Two of these—at Toronto and Victoria—are under the Meteorological Branch of the Department of Marine, while the three remaining stations are controlled by the Dominion Observatory, of the Department of the Interior, with the assistance and co-operation of the universities at Halifax and at Saskatoon.

The records for Toronto and Victoria are published from Toronto, whence monthly bulletins are issued to seismologic observatories interested, giving full details of all quakes registered. The records for the remaining stations are published from Ottawa. Monthly bulletins are issued to 219 seismologic observatories situated throughout the world. These are supplemented by a yearly publication giving the location of epicentres of all earthquakes of which any trace is registered at Ottawa and for which the total data are sufficient. Reports are received regularly from all the working seismologic stations of the world.

Regular research work in seismology is carried on at Ottawa, where the full time of three seismologists is given to the work of earthquake study alone. The reports are issued in the publications of the Dominion Observatory, Ottawa.

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[1] By Ernest A. Hodgson, M.A., Dominion Observatory, Ottawa.

The natural and instrumental data for each station are as follows:—

Halifax.—Lat., 44° 38′ N.; Long., 63° 36′ W., Alt., 47·3 m. Substrata, carbonaceous slate, Equipment:—Small Mainka Pendulum Seismograph. Mechanical registration. Components N.S., E.W. Mass of each 139·3 kgm. Period of each 10 sec. Damping ratio of each 6:1. Magnification of each, about 60. Time is checked automatically each hour by signal from Western Union Telegraph and is to be depended on to one or two seconds.

Ottawa.—Lat., 45° 23′ 38″ N.; Long., 75° 42′ 57″ W.; Alt., 82 m. Substrata, boulder clay over limestone (Ordovician). Equipment:—(1) Bosch Horizontal Seismographs. Photographic registration. Independent components, N.S., E.W. Mass of each 200 gm. Period of each, about 5·5 sec. Damping ratios N.S. 2:1, E.W., 18:1. Magnification of each, 120. (2) Milne-Shaw Horizontal Seismographs. Photographic registration. Independent components, N.S., E.W. Mass of each, 1 lb. Period of each, 12 sec. Damping ratio of each 20:1. Magnification of each, 250. (3) Wiechert Vertical Seismograph. Mechanical registration. Mass, 80 kgm. Period, 6 sec. Damping ratio, 20:1. Magnification, 160. (4) Deformation Instrument. Photographic registration. Components, N.S., E.W. Mass of each, 20 gm. Period of each, about 36 sec. No damping. Used for determination of tilt. The time service at Ottawa is that of the Dominion Observatory and the registration on the record is kept correct to within 0·2 sec.

Toronto.—Lat., 43° 40′ N.; Long., 79° 24′ W., Alt., 115·5 m. Substrata, sand and gravel on boulder clay to a depth of about 15 m., then shale over crystalline rock (Laurentian) to a depth of about 335·5 metres. Equipment:—(1) Milne Seismograph. Photographic registration. E.W. component. Mass, 0·3 kgm. Period, 18 sec. No damping. (2) Milne-Shaw Horizontal Seismographs. Photographic registration. Independent components, N.S., E.W. Mass of each, 1 lb. Period of each, 12 sec. Damping ratio of each, 20:1. Magnification of each, 150. Time markings by Toronto Observatory clock. The registration has an error of 2 sec. The time is checked by meridian transits.

Saskatoon.—Lat., 52° 8′ N.; Long., 106° 30′ W.; Alt., 515m. Substrata, clay and sand. Equipment:—Small Mainka Pendulum Seismograph. Mechanical registration. Components, N.S., E.W. Mass of each, 139·3 kgm. Period of each, approximately 9 sec. Damping ratio of each, 5:1. Magnification of each, about 60. Time by local clock, checked occasionally by telephone with train time.

Victoria.—Lat., 48° 24′ 50″ N.: Long., 123° 19′ 28″ W. Alt., 67·6 m. Substrata, igneous rock. Equipment:—(1) Milne Seismograph. Photographic registration. E. W. component. Mass, 0·23 kgm. Period, 18 sec. No damping. (2) Milne-Shaw Horizontal Seismographs. Photographic registration. Independent components. N.S., E.W. Mass of each 1 lb. Period of each, 12 sec. Damping ratio of each, 20:1. Magnification of each, 250. (3) Wiechert Vertical Seismograph. Mechanical registration. Mass, 80 kgm. Period, 5 sec. Magnification, 70. Time service of the meteorological station. Registration correct to ±0·1 sec.

PART IV.—THE FLORA OF CANADA.

Under the above heading the Canada Year Book, 1922-23, contained an article prepared by the late J. M. Macoun, C.M.G., F.L.S., and M. O. Malte, Ph.D., and revised by the latter. See p. 25 of the 1922-23 edition or p. 73 of the 1921 edition.

PART V.—FAUNAS OF CANADA.

The Canada Year Book, 1922-23, contained an article under the above heading by P. A. Taverner of the Department of Mines, Ottawa. See p. 32 of the 1922-23 edition or p. 82 of the 1921 edition.

PART VI.—THE NATURAL RESOURCES OF CANADA.

The economic life of new countries must at first depend entirely, and later mainly, upon their natural resources. Older countries, after exhausting their most easily obtained resources, turn for a livelihood to manufacturing and similar pursuits, conserving their remaining resources and utilizing those of less developed areas.

Canada is distinctly a new country and her resources are for the most part in the early stages of development. The fur, fishery and forest resources have, it is true, been the basis of trade for two or three hundred years but exploitation on the present commercial scale is of relatively recent growth. A notable feature, especially in so young a country, has been the effort directed to conservation and, in the cases of those resources which admit of such methods, the actual replenishment or augmentation of the sources of supply by the practice of reforestation, sylviculture, fur-farming or the establishment of fish hatcheries.

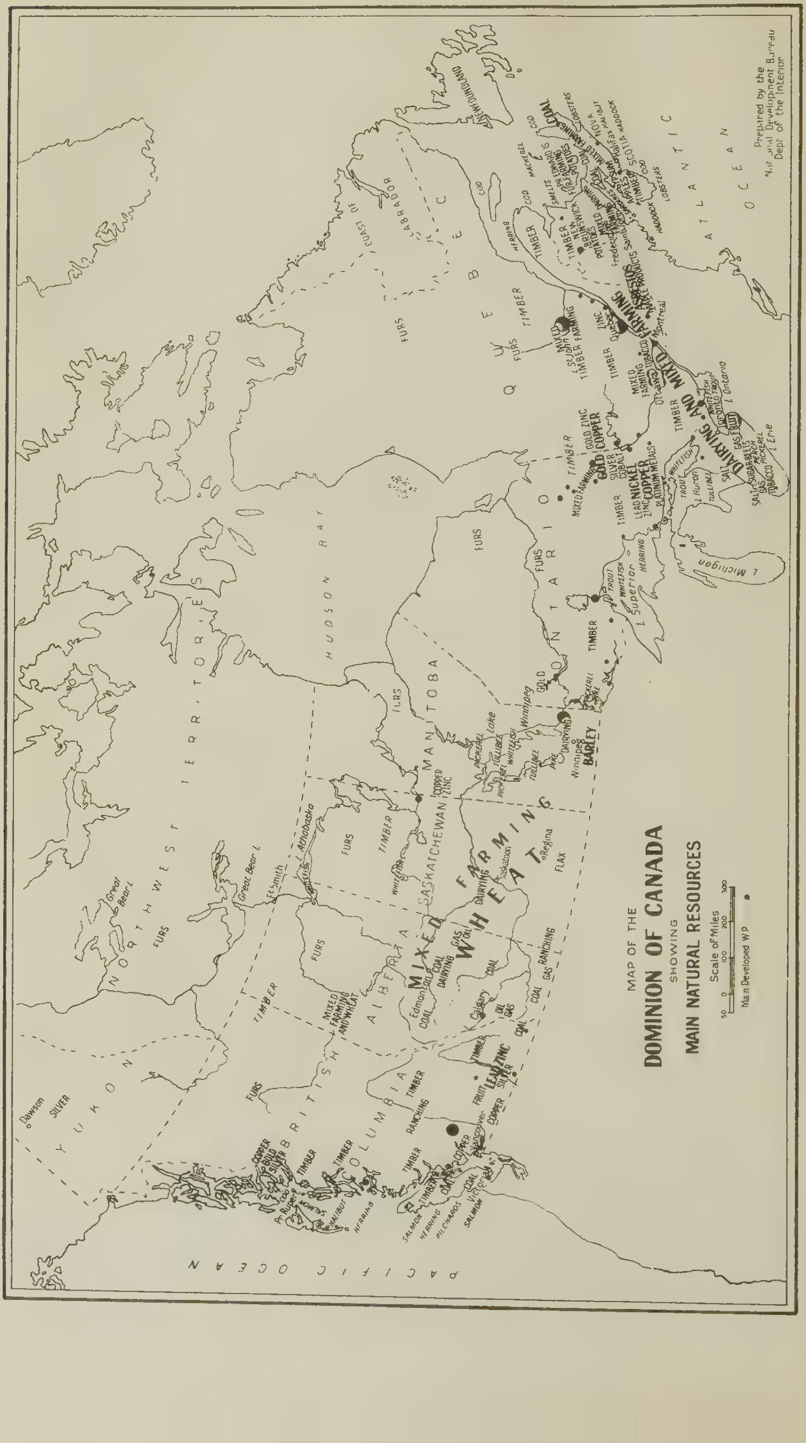
In recent years numerous surveys and investigations as to the extent and value of the resources have been made. A short summary of important details regarding them follows. Fuller information will be found in the introductions to later chapters—Agriculture, Furs, Fisheries, Forestry, Minerals, Water Powers—of this volume.

Agricultural Lands.—Of the total land area of the nine provinces (1,309,724,800 acres), it is estimated that approximately 358,162,190 acres are available for use in agricultural production. This figure is of course an estimate and is taken to include lands now occupied by agriculturists, including grazing lands, and all lands possible of devotion to similar purposes. The area at present under cultivation is but a fraction of this total, the extent under field crops in 1929, being 61,207,034 acres, while the total area under pasture in the same year was 9,768,320 acres. Statistics of farm lands at the census of 1921 place the area then occupied at 140,887,903 acres; the area of what may be considered as agricultural land still available for occupation was, therefore, 217,274,287 acres. Details are given by provinces in Table 6.

6.—Area of Occupied and Estimated Available Farm Lands in the Nine Provinces of Canada, 1921, with Estimated Land Area, 1930.

Province.	Area Occupied.	Area Available.	Total Agricultural Land.	Total Land Area, 1930.
	acres.	acres.	acres.	acres.
Prince Edward Island	1,216,483	41,707	1,258,190	1,397,760
Nova Scotia	4,723,550	3,368,450	8,092,000	13,275,520
New Brunswick	4,269,560	6,448,440	10,718,000	17,734,400
Quebec	17,257,012	26,487,988	43,745,000	365,442,560
Ontario	22,628,901	33,821,099	56,450,000	232,500,480
Manitoba	14,615,844	10,084,156	24,700,000	143,857,280
Saskatchewan	44,022,907	49,435,093	93,458,000	152,304,000
Alberta	29,293,053	67,829,947	97,123,000	159,232,000
British Columbia	2,860,593	19,757,407	22,618,000	223,980,800
Totals	**140,887,903**	**217,274,287**	**358,162,190**	**1,309,724,800**

Thus, in all the provinces but Prince Edward Island, large areas are still available for settlement, and while the nature of the soil and of the climate may in some cases restrict the variety of crops, in general the grain, root and fodder crops can be profitably grown in all the provinces, while stock raising is carried on successfully both in the more densely settled areas and beyond their frontiers.



DISTRIBUTION OF THE MAIN NATURAL RESOURCES.

The Maritime Provinces are noted for their fruit and vegetable crops, particularly for the oat and potato crops of Prince Edward Island and New Brunswick and the apples of the Annapolis valley in Nova Scotia. Quebec and Ontario are pre-eminently mixed farming communities, various districts specializing in dairying, tobacco, sheep, etc., while the Niagara peninsula in Ontario has long been famous for its fruit crops of both large and small varieties. In Manitoba, Saskatchewan and Alberta the production of grains is still of primary importance but is giving way to more diversified types of agriculture, while the stock-raising industry, once so typical of the prairies, is regaining much of its former importance. In British Columbia the fertile valleys are devoted principally to apple and other fruit crops, and numerous districts along the coast and on Vancouver island are given over to general farming and market gardening.

Of the larger areas of land still available for settlement, the clay belt of northern Ontario and Quebec, which is suited to the growing of splendid crops, is to a large extent undeveloped, and even larger areas in northern Saskatchewan and Alberta await cultivation.

Forests.—The forests of Canada rank second only to agriculture in their contribution to the national income. It is estimated that forest products make up about 20 p.c. of all the freight hauled on Canadian railways, and the heavy excess of exports over imports which the wood and paper group provides, amounting to $228,616,000 for the fiscal year ended March, 1930, constitutes an influential factor in Canada's international balance of trade.

Canada's forest area may be roughly divided into three main parts:—(1) the great coniferous forest of the Pacific slope, (2) the northern forest, principally coniferous, which stretches from the east slopes of the Rockies, north of the prairies and of the Great Lakes to Labrador, and (3) the mixed softwood and hardwood forests extending from lake Superior through southern Ontario and Quebec to the Maritime Provinces. Canada's forest area has been estimated at 1,151,454 square miles, some of which is agricultural land; 17·3 p.c. is covered with accessible mature merchantable timber, 9·7 p.c. with immature but merchantable forest products and 48·2 p.c. with accessible young growth which will eventually be merchantable. The remaining 24·8 p.c. is inaccessible or unprofitable at present. With regard to quantity of timber it has been estimated at 425,000,000,000 feet board measure for saw timber and 1,122,000,000 cords of pulpwood, etc., the stands in Eastern Canada making up 41 p.c., the Prairie Provinces 25 p.c. and British Columbia 34 p.c. of the total, which amounted to over 224,000,000,000 cubic feet. These figures place Canada as the second most important country in the world with regard to total forest area, Asiatic Russia being first and the United States third in this respect. During recent years the annual cut (now estimated at 4,778,000,000 cubic feet) has generally exceeded the new growth, and enormous losses have been caused by fire and other destructive agencies. In spite of the vast extent of the uncut and unburned forests it cannot be said that the measures so far taken by legislation and the application of scientific forestry to preserve them and encourage their regeneration have been sufficient to assure us an adequate supply of timber for the future.

A classification of Canada's forest area is given in Table 7. The total of forest land is divided into the areas at present carrying timber of merchantable value or valuable young growth, and other areas unsuited for present exploitation. It may be pointed out, however, that many of these latter will develop into productive areas as the demand increases and transportation facilities are extended. The totals of forest land given in this table refer to areas which are on the whole better suited for forest production than for any other purpose, although they include about 82,000 square miles of potential agricultural land at present covered with forest.

7.—Area of Productive and Unproductive Forest Land in Canada, 1930.

Province.	Forest Land.				Total Land Area.
	Accessible.		Unprofitable or Inaccessible.	Total Forest Area.	
	Merchantable.	Young Growth.			
	square miles.	square miles.	square miles.	square miles.	square miles.
Prince Edward Island	484	240	-	724	2,184
Nova Scotia	6,000	4,296	4,924	15,220	20,743
New Brunswick	15,750	9,110	-	24,860	27,710
Quebec	150,000	250,000	100,000	500,000	571,004[1]
Ontario	70,000	100,000	70,000	240,000	363,282
Manitoba	5,000	60,000	10,000	75,000	224,777
Saskatchewan	10,000	15,000	25,000	50,000	237,975
Alberta	30,000	40,000	16,650	86,650	248,800
British Columbia	23,000	75,000	51,000	149,000	349,970
The Territories	1,000	1,000	8,000	10,000	1,463,563
Totals	**311,234**	**554,646**	**285,574**	**1,151,454**	**3,510,908**

[1] As per Labrador Boundary Award of Mar. 1, 1927.

Forest products have always formed a large part of the raw material used in all kinds of industrial activity. At the present time products of forest origin form a quarter of our total exports, being exceeded only by the products of the farm.

Because of our climate, coniferous trees form over 80 p.c. of our forest resources and over 95 p.c. of our forest products as at present exploited. Because of their universal use in industry, the softwoods are in greatest demand, not only in Canada but in the markets of the world. Canada enjoys the reputation of holding the Empire's reserve of softwood timber, being rivalled in her coniferous forests only by Asiatic Russia and the United States. The Canadian species of both hardwoods and softwoods yield lumber and timber of dimensions and quality that are equal or superior to those produced by forests elsewhere.

Statistics of forest production (operations in the woods) in 1929 place its total value at $219,570,129, with a corresponding equivalent in standing timber of 3,090,614,647 cubic feet. The most important items are logs for sawing, valued at $79,278,543, and pulpwood for use and export, valued at $76,120,063. The total value of sawmill products in 1929 was $146,989,564 and that of pulp and papermill products $243,970,761.

Furs.—Although the rapid advance of settlement has greatly restricted the reservoir of fur-bearing animal life cradled in the vast expanses of northern Canada, yet Canada, after three and a half centuries of exploitation, still holds a foremost place in the ranks of the world's fur producing countries.

Raw furs are at present the only economic return from hundreds of thousands of square miles of the area of the Dominion and are a resource to which all the provinces and territories contribute.

The large uninhabited areas of northern Quebec, Ontario, Manitoba and the Northwest Territories furnish subsistence for many of the most highly prized fur-bearing animals, among the most important of which are the beaver, fisher, various varieties of fox, marten and others. The animals are usually caught in traps during the winter months, when the country is more accessible than during the summer and the pelts are in the best condition. The successful breeding of the fox on fur farms came with the period of rising prices after 1890, and has since developed into an important industry. Prince Edward Island has always been the centre of the industry, but farms are now found in all provinces of the Dominion. On Dec. 31, 1928, 3,631 fox farms were in operation with a total of 77,311 foxes, principally of the "silver" variety.

Although the fox has proved the most suited to domestication, other kinds of fur-bearing wild animals are being raised in captivity—mink, raccoon, skunk, lynx, coyote, rabbit, marten and fisher. Karakul sheep, from which are obtained the furs known as "Persian lamb", "astrachan" and "broadtail", are also being raised successfully in Canada. In 1928 the number of farms engaged in the raising of fur-bearing animals other than foxes was 695. Mink farms are the most numerous of the miscellaneous class, muskrat farms coming second and raccoon third. Over 260 of the fox farms also raise miscellaneous fur-bearing animals in addition to the foxes.

The total value of the raw fur production of Canada for the season 1927-28 was $18,758,177. This total comprises the value of pelts of fur-bearing animals taken by trappers and of those raised on fur farms. Pelts sold from fur farms in the calendar year 1928 were valued at $2,389,026 and animals sold at $3,837,420.

Fisheries.—The first of Canada's resources to be exploited by Europeans was the fishing banks of the Atlantic coast. It is believed that for many years before the actual discovery and settlement of North America the cod banks south of Newfoundland and east of Nova Scotia had attracted French fishermen by their abundance of fish. These fishing grounds alone extend along a coast line of more than 5,000 miles, comprising an area of not less than 200,000 square miles, and are in the course of the cold Arctic current, a fact which tends greatly to improve the quality of the fish. The most important fishes of the off-shore fisheries are the cod, halibut, haddock, herring and mackerel, while the inshore and inland fisheries number the lobster, oyster, salmon, gaspereau, smelt, trout and maskinonge among their catches. Other fishing grounds include the inshore expanses of the St. Lawrence river; the Great Lakes, where whitefish and herring form perhaps the most valued catches, and innumerable other inland water areas abounding with trout, pike, bass and other game fish; and the Pacific coast. The fisheries of British Columbia, with its coast line of 7,000 miles, have in recent years shown a rapid development, and the products of the estuarian salmon fisheries of the Fraser, Skeena and other rivers now make up two-fifths of the value of fish products of the Dominion, while in addition large catches of halibut, herring and whales are made off the western coast. The total value of the fisheries in the calendar year 1929 was $53,518,521.

The above statistics give a general survey of the commercial aspects of the fisheries but do not indicate the advantages which Canada has to offer to those who fish for sport. This too has its economic features in a country of such famous game fish as the salmon of the Restigouche, the black bass of the Quebec and Ontario highlands and the trout of the Nipigon. A considerable public revenue is derived from the leasing of waters in sparsely settled districts to clubs and individuals for sporting purposes.

Minerals.—The numerous and varied mineral deposits of the Dominion form another of her most important resources. Mining is an old industry, coal having been produced in Nova Scotia and iron ore in Quebec early in the eighteenth century. The main development in the industry has taken place, however, in the twentieth century, during which there has been a great increase in the per capita production of minerals and mineral products.

There is a great variety of minerals, metallic and non-metallic. The value of the coal raised greatly exceeds that of any other mineral, reaching $63,065,170 in 1929. Coal will continue for an indefinite period to hold a commanding position in the industry, for Canada's reserves of this fuel are known to be very great. The other leading non-metallic minerals are asbestos, natural gas, gypsum, petroleum and salt. Others that are produced to the annual value of between $200,000 and $500,000 each are quartz, magnesite, sulphur, feldspar and fluorspar. In quantity of asbestos produced Canada leads the world, all of the production being from Quebec. Natural gas is produced in Alberta and Ontario and to a less extent in New Brunswick. The decline in the production of petroleum in Ontario has been offset by increased output in Alberta.

The value of the metallic minerals is much greater than that of the non-metallic minerals. Those amounting to more than $1,000,000 per annum are: copper, gold, nickel, lead, silver, zinc, cobalt and the platinum group of metals. The value of the gold amounted in 1929 to $39,861,663 and was only exceeded by that of copper, the value of which was $43,415,251, Canada having risen since the development of the Porcupine and Kirkland Lake mines to third place among gold-producing countries.[1] Lead and zinc mining has made a rapid growth in recent years. Ontario meets about 90 p.c. of the world's requirements in nickel, and has reserves to last for centuries. Platinum and palladium are recovered in the process of refining the copper-nickel ores. British Columbia, Ontario and Quebec are the main copper-producing provinces; in Manitoba large bodies of copper-zinc sulphides are being developed. The total mineral production for 1929 amounted to $310,850,246, while the 1930 production is provisionally estimated at $276,865,000, the decline being due to lower values rather than to reduced quantities.

Water Powers.—Canada's water area of 180,035 square miles, distributed as it is throughout all parts of the country, provides a large amount of potential electric energy. It is estimated that 20,347,400 h.p. are available at a minimum yearly flow, 33,617,200 at ordinary six-months flow and that a turbine installation of 43,000,000 h.p. is possible. The present turbine installation of 6,125,012 h.p. represents only about 14 p.c. of the recorded water-power resources. Perhaps the greatest use to which these resources have yet been put has been in the pulp and paper industry, and to a lesser degree in the mining, the electro-chemical, the electro-metallurgical and the flour-milling industries. The water power utilized in the pulp and paper industry alone amounted on Dec. 31, 1930, to 579,826 h.p. Over 94 p.c. of the power available is in Quebec, Ontario, Manitoba and British Columbia; Quebec with 8,459,000 h.p. available at ordinary minimum flow, has the largest resources in the Dominion.

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[1] In 1930, according to preliminary figures, Canadian gold production exceeded that of the United States. If final figures support the preliminary estimate, Canada has now assumed second place in the world as regards gold production.

Game and Scenery.—Canada's resources as a country for the sportsman and tourist are both unique and varied. With the increasing growth of tourist travel and its demands, great areas of uninhabited land have become accessible, and hitherto almost unknown parts may now be reached and traversed with ease. The valleys of Nova Scotia and New Brunswick, the broken lake country of northern Ontario and Quebec, as well as the mountain districts of British Columbia, offer to the tourist and the fisherman new types of scenic effects and innumerable game preserves, and have won for the Dominion a reputation as a paradise for sportsmen and campers. And not only is this possible for those who travel by land; the series of lakes and rivers which form a network over the eastern part of the country particularly, has made water travel in smaller craft both feasible and attractive. Further, facilities for winter sports, the unusual attractions of winter scenery and the bracing though rigorous winter climate, have done much to add to the reputations of resorts formerly noted for their advantages in the summer season.

The Dominion Government maintains, as the medium through which some of the most outstanding natural beauties of the country may be preserved and popularized, the National Parks Branch of the Department of the Interior, administering the eleven parks set aside for this purpose. Under the supervision of this same body are numerous animal reserves and historic sites which have been preserved throughout the country. Several of the provinces also maintain parks for similar purposes.

In these parks, the hunting of game is forbidden, and the wild life resources preserved. Elsewhere, however, there is available for the hunter and angler, at proper seasons, a wealth of game species; the deer and moose of Eastern Canada, the bear and mountain sheep of the Rockies, game animals, birds and fishes in unusual variety, have given the Dominion exceptional advantages for this means of recreation.

A list of the national parks and reserves is given in Table **8**. There are also numerous provincial parks, of which the Algonquin park (2,741 square miles) in Ontario and the Laurentides park (3,565 square miles) in Quebec are the most important.

8.—Canadian National Parks and Reserves, 1930.

Park.	Location.	Date of Establishment.	Area.
Scenic Parks.			sq. miles.
Banff National Park	Alberta, east slope of Rockies	1885	2,585
Yoho Park	British Columbia, west slope of Rockies.	1886	507
Glacier Park	British Columbia, summit of Selkirks	1886	521
Revelstoke Park	British Columbia	1914	100
Kootenay Park	British Columbia	1920	587
Jasper Park	Northern Alberta	1907	4,200
Waterton Lakes Park	Southern Alberta, adjoining U.S. Glacier Park	1895	220
St. Lawrence Islands	Ontario	1904	(180·8 acres)
Pt. Pelee Park	Ontario, on lake Erie	1918	4
Georgian Bay Islands Park	Ontario	1929	4·6
Riding Mountain Park	Manitoba	1929	1,148
Prince Albert Park	Saskatchewan	1927	1,869
Tar Sand Reserve	Alberta	1926[1]	(2,068·2 acres)
Animal Parks and Reserves.			
Buffalo Park	Near Wainwright, Alberta	1908	197·5
Elk Island Park	Near Lamont, Alberta	1911	51
Nemiskam (Antelope)	Alberta	1922	8·5
Wawaskesy (Antelope)	Alberta	1922	54
Menissawok (Antelope)	Saskatchewan	1922	17
Wood Buffalo Park	Alberta and N.W.T.	1922	17,300[2]
Historic Parks.			
Fort Anne	Annapolis Royal, Nova Scotia	1917	(31 acres)
Fort Beauséjour	New Brunswick	1926	(59 acres)

[1] Reserved by order of the Minister. [2] Administered by the North West Territories and Yukon Branch of the Department of the Interior.

PART VII.—CLIMATE AND METEOROLOGY.

Section 1.—The Climate of Canada.

An article on this subject by Sir Frederic Stupart, Director of the Dominion Meteorological Service, Toronto, appeared in the 1929 edition of the Year Book at pp. 42-51.

Section 2.—The Factors which Control Canadian Weather.

Under the above heading, Sir Frederick Stupart, Director of the Dominion Meteorological Service, Toronto, contributed an article which appeared at pp. 26-31 of the 1924 edition of the Year Book, also at pp. 36-40 of the 1925 edition.

Section 3.—The Distribution of Precipitation in Canada.

An article on "The Distribution of Precipitation in Canada", contributed by A. J. Connor, Climatologist, Dominion Meteorological Office, Toronto, appeared at pp. 42-46 of the 1926 edition of the Year Book.

Section 4.—The Temperature and Precipitation of Northern Canada.

An article on the climate of northern Canada, accompanied by meteorological tables showing the normal temperature and precipitation at selected northern stations, was contributed by A. J. Connor, of the Meteorological Service of the Department of Marine, Toronto, to the 1930 edition of the Year Book, where it will be found at pp. 41-56.

Section 5.—The Meteorological Service of Canada.

Under the above heading Sir Frederick Stupart contributed a short article descriptive of the growth and present activities of the Meteorological Service, to the 1922-23 edition of the Year Book (pp. 43-47); to it the interested reader is referred.

Section 6.—Meteorological Tables.[1]

Tables showing the normal temperature and precipitation at selected Canadian stations in each of the provinces, together with the recorded extremes, also the averages of sunshine, wind and weather at such stations, will be found at pp. 51-63 inclusive of the 1927-28 edition of the Year Book.

Comprehensive new tables have been prepared especially for the present edition. Among these, Table **9** shows by months the normal maximum, minimum and mean temperatures at a large number of selected Canadian stations in each of the provinces. Table **10** gives the normal precipitation by months and Table **11** the normal snowfall by months, together with the total depth of snow which normally falls at these stations in the course of the year. Table **12** presents, for a much smaller number of stations, the normal and total duration of bright sunshine.

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[1] Material in this section has been prepared under the authority of the Director of the Meteorological Service of Canada, Toronto, by A. J. Connor, Climatologist.

9.—Monthly Averages of Normal Daily Maximum,

NOTE.—For all practical purposes these temperatures may be taken as the average temperature of
usually be noon to 1 p.m. in winter and 2.30 p.m. to 3.30 p.m. in midsummer in the case of
hour between 9 a.m. and

No.	Station.	Maximum.														
		J	F	M	A	M	J	J	A	S	O	N	D	Year	J	F
	BRITISH COLUMBIA.															
	Vancouver Island.															
1	Alberni	39	45	52	60	67	72	80	81	71	61	47	41	60	28	30
2	Clayoquot	45	47	50	54	58	62	67	67	64	58	51	48	56	34	34
3	James Island	43	45	50	56	62	67	72	72	65	57	50	44	57	34	35
4	Nanaimo	41	44	50	54	63	68	74	73	65	56	48	43	56	31	34
5	Quatsino	41	43	46	50	55	60	65	65	60	54	47	45	52	32	33
6	Ucluelet	43	46	48	52	56	62	64	66	62	56	50	45	54	32	33
7	Vananda	41	43	47	54	62	68	73	71	63	54	47	42	55	32	32
8	Victoria	43	45	50	56	61	65	69	69	64	56	49	45	56	35	36
	South Coast.															
9	Britannia Beach	39	42	46	53	60	65	70	70	63	55	46	40	54	30	30
	Queen Charlotte Islands.															
10	Massett	42	44	47	50	57	62	66	67	61	54	47	45	53	30	31
	North Coast.															
11	Anyox	32	34	40	49	58	65	68	66	60	49	39	31	49	23	23
12	Bella Coola	30	35	45	55	64	68	74	73	65	53	41	34	53	20	23
13	Prince Rupert	39	42	44	50	55	60	62	64	60	53	46	41	51	31	31
14	Rivers Inlet	39	41	46	52	58	62	66	66	60	53	43	41	52	31	31
	Skeena and Naas Rivers.															
15	Babine Lake	15	25	39	48	58	64	69	68	58	44	33	20	45	2	2
16	New Hazelton	22	30	41	54	62	69	72	71	62	49	37	23	49	8	12
17	Terrace	28	34	42	54	62	69	73	73	64	52	40	32	52	19	21
	Upper Fraser River.															
18	Barkerville	23	27	35	44	56	62	67	66	56	46	32	28	45	10	11
19	Big Creek	22	30	40	54	62	68	76	74	63	50	35	28	50	1	6
20	Cranberry Lake	22	29	38	57	63	69	76	74	64	50	35	23	50	4	6
21	Fort St. James	18	24	34	47	57	66	71	69	58	48	34	26	46	−4	0
22	Prince George	24	31	41	55	63	70	75	74	64	53	38	24	51	3	5
23	Quesnel	24	30	44	58	67	73	78	75	66	54	42	33	44	5	12
	Lillooet Lake.															
24	Pemberton Hatchery	26	35	47	56	66	72	78	78	66	54	40	32	54	18	23
	Lower Fraser River.															
25	Agassiz	40	44	53	62	69	72	78	78	70	62	49	44	60	29	30
26	Chilliwack	38	43	50	59	65	70	76	76	68	58	47	41	58	29	30
27	Ladner	40	43	49	56	63	68	72	70	64	58	50	43	56	30	32
28	New Westminster	39	44	50	57	64	69	74	72	66	56	46	42	56	30	32
29	Vancouver	40	43	49	56	63	68	73	72	65	56	47	42	56	32	33
	Middle Fraser River.															
30	Hope	31	39	49	60	66	70	76	74	67	54	43	36	55	23	27
31	Lillooet	35	48	53	64	73	80	88	86	76	62	47	34	62	21	23
	Nicola, Okanagan and Similkameen Valleys.															
32	Hedley	27	36	48	60	67	73	82	79	70	56	43	35	56	12	19
33	Kelowna	30	34	47	60	69	74	81	77	67	56	43	36	56	17	18
34	Keremeos	29	34	48	60	69	75	81	82	70	58	41	33	56	15	20
35	Merritt	30	35	46	56	66	73	80	78	68	56	42	30	55	15	18
36	Penticton	34	36	48	60	68	75	81	77	69	58	46	35	57	19	23
37	Princeton	25	35	46	59	67	72	80	80	68	57	40	30	55	6	11
38	Summerland	31	35	46	57	68	75	83	80	70	56	42	32	56	19	22
39	Vernon	27	34	45	58	67	74	82	81	68	56	41	34	56	14	18
	Kettle Valley.															
40	Grand Forks	25	33	46	60	68	75	84	84	71	54	38	28	56	14	19
41	Greenwood	27	34	46	60	66	75	83	84	72	57	40	29	56	8	13
42	Rock Creek	26	36	48	60	71	77	87	83	73	60	40	28	57	6	12
	West Kootenay.															
43	Boswell	33	36	44	56	64	72	80	79	67	55	42	35	55	22	24
44	Crawford Bay	31	35	42	56	64	72	78	76	66	54	40	32	54	20	22
45	Creston	30	33	43	56	64	72	79	78	66	53	39	31	54	16	18
46	Kaslo	30	34	42	52	62	68	74	74	63	52	40	31	52	19	23
47	Nelson	30	35	45	58	66	74	80	76	68	55	42	35	55	20	22

Minimum and Mean Temperatures.

the warmest or coldest hour of the day, or the average temperature of the whole day. This will the maximum, the hour of sunrise in the case of the minimum, and the temperature of the 10 a.m. in the case of the mean.

Minimum.											Mean.													No.
M	A	M	J	J	A	S	O	N	D	Year.	J	F	M	A	M	J	J	A	S	O	N	D	Year.	
32	36	42	46	50	49	44	40	34	33	39	34	38	42	48	55	59	65	65	58	51	41	37	49	**1**
35	38	42	46	50	50	47	44	39	37	41	40	41	42	46	50	54	58	58	56	51	45	42	49	**2**
38	41	45	49	52	47	50	45	40	36	43	39	40	44	48	53	58	62	60	57	51	45	40	50	**3**
35	39	45	49	54	54	49	43	39	35	42	36	39	42	46	54	58	64	63	57	50	43	39	49	**4**
36	37	48	47	50	51	46	43	38	36	41	36	38	41	44	51	53	58	58	53	48	42	40	47	**5**
34	37	42	46	49	50	46	42	38	33	40	38	39	41	44	49	54	57	58	54	49	44	39	48	**6**
34	40	44	50	54	54	48	42	37	33	42	36	37	40	46	53	59	63	62	56	48	42	37	48	**7**
37	41	45	49	51	51	48	44	40	37	43	39	40	44	48	53	57	60	60	56	50	45	41	49	**8**
35	40	45	49	53	54	52	46	37	30	42	35	36	40	46	52	57	62	62	58	51	42	35	48	**9**
32	36	40	46	51	51	46	39	34	34	39	36	37	39	43	49	54	58	59	54	47	40	39	46	**10**
28	34	40	48	52	52	46	39	31	23	37	27	29	34	41	49	56	60	60	53	44	35	27	43	**11**
28	33	40	45	49	48	44	38	31	27	36	25	29	36	44	52	57	62	60	54	46	36	31	44	**12**
33	37	41	46	50	51	47	42	37	32	40	35	37	39	43	48	53	56	58	54	47	41	36	46	**13**
32	36	42	46	51	51	47	43	36	34	40	35	36	39	44	50	59	58	58	53	48	40	38	46	**14**
15	24	32	39	43	41	38	31	19	6	24	9	14	27	36	45	51	56	55	48	38	26	13	35	**15**
20	29	36	43	47	45	38	33	25	11	29	15	21	30	42	49	56	60	58	50	41	31	17	39	**16**
27	33	40	46	51	51	44	38	31	23	35	23	28	35	44	51	57	62	62	54	45	36	28	44	**17**
16	24	33	38	42	41	35	29	18	15	26	17	19	26	34	44	50	54	54	46	38	25	21	36	**18**
14	26	32	36	44	42	34	24	15	13	24	12	18	28	40	47	52	60	58	49	37	25	21	37	**19**
17	28	33	39	42	41	35	30	21	6	25	13	17	28	42	48	58	59	58	50	40	28	15	38	**20**
9	21	30	36	38	38	31	25	14	7	20	7	12	22	34	44	51	55	53	45	37	24	17	33	**21**
17	27	34	41	44	43	35	29	21	8	26	14	18	29	42	48	56	59	58	50	41	30	16	38	**22**
14	23	36	43	46	45	38	32	21	15	28	14	21	29	41	52	58	62	60	52	43	31	24	41	**23**
29	34	40	45	49	49	44	38	32	24	35	22	29	38	45	53	59	64	64	55	46	36	28	45	**24**
34	37	42	46	50	48	44	39	34	31	39	35	37	44	49	56	59	64	63	57	51	41	37	49	**25**
34	39	44	49	52	51	47	41	35	31	40	34	37	42	49	55	60	64	63	57	50	41	36	49	**26**
34	37	42	46	55	48	45	40	37	34	40	35	37	42	47	52	57	64	59	55	49	44	38	48	**27**
35	39	44	49	53	52	48	43	37	33	41	35	38	43	48	54	59	63	62	57	49	42	38	49	**28**
36	39	45	50	53	53	48	43	38	35	42	36	38	42	48	54	59	63	62	56	49	43	38	49	**29**
31	37	43	48	53	53	48	41	33	29	39	27	33	40	49	55	59	64	64	58	48	38	33	47	**30**
31	37	45	52	57	56	47	38	29	21	38	28	36	42	51	59	66	72	70	61	50	38	27	50	**31**
25	34	41	48	53	51	44	35	28	22	34	20	28	37	47	54	60	67	65	57	46	36	29	45	**32**
27	34	42	48	52	50	42	34	30	25	34	24	26	37	47	55	61	67	64	55	45	36	30	46	**33**
28	35	48	54	56	58	48	38	30	24	38	22	27	38	48	58	64	68	70	59	48	35	28	47	**34**
26	31	39	47	50	48	40	34	25	14	32	22	27	36	44	53	60	65	63	54	45	33	22	44	**35**
27	33	42	48	52	50	44	37	32	29	36	26	30	38	46	55	62	66	64	57	48	39	32	47	**36**
19	29	37	41	46	45	38	30	22	14	28	16	23	32	44	52	57	63	62	53	43	31	22	42	**37**
30	37	45	52	58	57	49	40	31	24	39	25	29	38	45	56	63	70	68	60	48	36	28	48	**38**
26	35	41	47	51	50	42	35	27	22	34	20	26	35	46	54	61	66	65	55	45	34	28	45	**39**
28	35	41	47	52	51	42	34	27	17	34	19	26	37	47	54	61	68	67	57	44	33	22	45	**40**
21	29	35	41	44	42	34	28	22	12	27	18	24	34	44	51	58	64	63	53	43	31	20	42	**41**
23	30	36	45	47	48	37	32	24	12	29	16	24	36	45	54	62	67	66	55	46	32	20	43	**42**
28	35	42	48	53	54	46	39	31	24	37	28	30	36	45	53	60	66	66	57	47	36	29	46	**43**
27	34	41	46	51	50	42	36	30	22	35	25	29	35	45	52	59	64	63	54	45	35	27	44	**44**
26	34	40	46	51	49	41	33	28	20	34	23	26	34	45	52	59	65	64	53	43	34	25	44	**45**
26	35	41	46	52	52	43	37	29	22	35	25	28	34	44	51	57	63	63	53	45	35	27	44	**46**
28	35	41	48	51	50	44	35	31	26	36	25	28	37	46	54	61	66	63	56	45	37	30	46	**47**

9.—Monthly Averages of Normal Daily Maximum,

NOTE.—For all practical purposes these temperatures may be taken as the average temperature of
usually be noon to 1 p.m. in winter and 2.30 p.m. to 3.30 p.m. in midsummer in the case of
hour between 9 a.m. and

No.	Station.	Maximum.														
		J	F	M	A	M	J	J	A	S	O	N	D	Year.	J	F
	BRITISH COLUMBIA—*concluded.*															
	East Kootenay.															
1	Cranbrook	26	30	43	56	65	74	77	79	67	56	36	29	53	8	8
2	Fernie	26	29	38	50	59	68	77	76	63	52	37	26	50	10	8
3	Invermere	22	29	41	55	64	71	78	76	64	51	34	22	51	3	6
4	Newgate	25	33	46	58	66	75	84	82	69	56	39	27	55	8	14
	Thompson River.															
5	Armstrong	27	31	44	59	67	74	81	80	67	54	39	28	54	15	16
6	Chinook Cove	26	32	44	58	65	72	79	79	68	55	40	29	54	9	10
7	Kamloops	28	34	48	61	70	77	83	81	70	56	41	32	57	16	20
8	Salmon Arm	25	34	45	58	68	75	82	78	68	54	40	33	55	12	19
9	Vavenby	26	33	46	58	67	73	80	80	68	53	39	27	54	8	11
	North Columbia River.															
10	Glacier	20	25	34	43	55	66	72	70	57	45	31	22	45	9	12
11	Golden	20	28	42	55	64	71	77	72	62	51	35	26	50	1	5
12	Revelstoke	26	30	42	53	65	72	79	75	65	51	39	31	52	14	15
	Peace River.															
13	Hudson's Hope	12	22	34	55	64	67	72	74	66	53	29	21	47	−11	−6
	Yukon Boundary.															
14	Atlin	8	16	27	40	53	62	65	62	53	41	28	18	39	−4	1
	YUKON.															
15	Carcross	4	14	26	40	54	63	65	62	55	42	25	16	39	−13	−5
16	Dawson	−16	−4	16	40	59	70	72	67	52	33	7	−5	33	−29	−19
17	Swede Creek	−12	−2	16	38	56	69	72	67	52	32	7	−8	32	−26	−20
	NORTHWEST TERRITORIES.															
18	Chesterfield Inlet	−20	−20	−10	9	27	43	56	53	42	28	7	−11	17	−33	−32
19	Fort Good Hope	−13	−8	2	27	50	67	72	65	48	28	2	−12	27	−33	−28
20	Fort McPherson	−13	−6	6	23	44	64	69	63	46	24	−1	−8	26	−29	−23
21	Fort Norman	−11	−4	9	32	52	67	71	65	50	31	5	−8	30	−26	−22
22	Fort Resolution	−12	−4	6	30	50	62	70	65	53	37	14	−5	30	−22	−16
23	Fort Simpson	−11	−1	12	39	55	67	73	68	56	37	11	−5	33	−27	−22
24	Fort Smith	−8	0	13	38	55	66	73	68	55	38	17	−2	34	−23	−20
25	Hay River	−7	−1	13	35	50	61	70	67	56	40	16	3	34	−24	−21
26	Lake Harbour	−9	−4	2	17	33	43	51	47	39	29	18	2	22	−22	−19
27	Pond Inlet	−24	−22	−13	13	32	45	49	47	34	19	2	−13	14	−34	−36
	ALBERTA.															
	North Saskatchewan River.															
28	Calmar	15	23	35	52	62	70	73	70	62	52	34	25	48	−4	0
29	Campsie	14	23	35	52	62	70	73	70	61	50	31	24	47	−10	−2
30	Camrose	16	19	34	52	62	70	74	71	61	53	33	25	48	−5	−2
31	Coronation	12	12	26	48	60	67	72	70	60	49	29	18	44	−8	−9
32	Edmonton	16	21	35	53	64	70	74	72	63	53	33	25	48	−4	0
33	Elk Point	3	14	28	48	60	70	74	68	60	50	29	16	43	−12	−10
34	Halkirk	13	14	29	48	60	67	72	70	60	50	30	20	44	−8	−8
35	Lloydminster	6	12	26	50	60	69	72	70	62	50	28	18	44	−14	−10
36	Nordegg	19	24	32	46	56	64	70	67	58	48	31	23	45	−6	−2
37	Ranfurly	9	14	31	50	62	69	72	70	61	51	30	21	45	−8	−8
38	Rocky Mountain House	17	23	31	48	60	66	72	68	58	50	33	24	46	−8	−2
39	Sion	14	22	34	52	62	70	73	70	61	50	32	24	47	−7	−2
40	Wastina	11	11	25	48	60	68	73	71	60	50	29	17	44	−8	−9
41	Wetaskiwin	17	22	35	52	62	69	74	71	62	52	34	25	48	−5	0
	Red Deer River.															
42	Alix	19	20	34	52	62	68	72	71	61	52	34	26	48	−5	−4
43	Hanna	13	12	26	48	60	68	72	70	60	50	32	22	44	−6	−8
44	Hillsdown	21	21	35	52	61	68	72	70	62	52	34	27	48	−4	0
45	Jenner	14	17	32	53	65	72	76	77	64	53	33	26	48	−8	−3
46	Lacombe	19	21	36	52	62	68	72	70	61	52	34	26	48	−6	1
47	Olds	21	26	35	54	62	68	74	69	60	54	38	28	49	−5	4
48	Perbeck	18	18	31	52	61	67	72	70	62	52	34	27	47	−4	−4
49	Red Deer	19	22	37	52	62	68	72	70	62	52	34	26	48	−6	2
50	Springdale	16	23	26	50	60	68	72	70	59	50	34	25	46	−9	−1

Minimum and Mean Temperatures—continued.

the warmest or coldest hour of the day, or the average temperature of the whole day. This will
the maximum, the hour of sunrise in the case of the minimum, and the temperature of the
10 a.m. in the case of the mean.

Minimum.											Mean.													
M	A	M	J	J	A	S	O	N	D	Year.	J	F	M	A	M	J	J	A	S	O	N	D	Year.	No.
19	28	36	40	43	42	35	28	22	12	27	17	19	31	42	51	57	60	60	51	42	29	20	40	**1**
19	30	36	43	47	45	38	31	22	11	28	18	18	28	40	48	56	62	61	50	42	29	18	39	**2**
15	29	37	44	47	45	37	30	19	6	26	12	17	28	42	50	57	63	61	50	40	27	14	38	**3**
24	31	38	44	48	46	39	33	24	11	30	16	24	35	45	52	60	66	64	54	44	31	19	42	**4**
26	32	39	46	50	49	41	35	29	18	33	21	24	35	46	52	60	66	64	54	44	34	23	44	**5**
23	31	38	44	48	46	39	33	25	14	30	17	21	34	45	52	58	63	63	53	44	33	22	42	**6**
28	38	45	52	56	55	47	39	30	23	38	22	27	33	50	58	64	70	68	59	48	36	27	47	**7**
24	34	42	48	52	49	43	36	28	25	34	19	26	34	46	56	62	67	64	56	43	34	29	44	**8**
23	31	37	58	46	45	39	33	24	13	31	17	22	34	45	52	58	63	62	53	43	31	20	42	**9**
17	27	34	38	44	43	37	31	20	11	27	15	19	26	35	44	52	58	56	47	38	25	17	36	**10**
17	29	37	43	46	44	37	30	22	12	27	10	16	29	42	51	57	61	58	50	48	28	19	39	**11**
24	31	39	46	48	47	41	35	29	22	33	20	23	33	42	52	59	64	61	53	43	34	27	42	**12**
9	28	34	42	46	44	35	27	12	0	22	1	8	21	41	49	54	59	59	51	40	20	11	34	**13**
10	23	33	39	43	43	37	30	18	8	24	2	8	18	31	43	51	54	52	45	36	23	13	31	**14**
5	20	32	38	43	40	36	27	10	1	20	−4	4	15	30	43	51	54	51	45	35	18	8	29	**15**
−7	15	34	43	46	42	32	20	−4	−17	13	−22	−12	4	28	46	57	59	54	42	26	1	−11	23	**16**
−10	14	34	44	47	42	32	18	−5	−22	12	−18	−11	3	26	45	56	59	55	42	25	1	−15	24	**17**
−24	−7	15	31	40	40	34	19	−6	−23	4	−27	−26	−17	1	21	37	48	46	38	24	0	−17	11	**18**
−22	0	26	41	47	41	30	14	−15	−30	6	−23	−18	−10	14	38	54	60	53	39	21	−6	−21	17	**19**
−17	−1	24	42	49	43	31	12	−15	−25	8	−21	−14	−6	11	34	53	59	53	38	18	−8	−16	17	**20**
−14	7	29	41	47	43	32	18	−7	−22	10	−19	−13	−2	19	41	54	59	54	41	24	−1	−15	20	**21**
−10	12	30	42	51	47	38	26	3	−15	16	−17	−10	−2	21	40	52	60	56	46	32	8	−10	23	**22**
−12	15	33	44	50	46	36	20	−3	−20	13	−19	−12	0	27	44	56	62	57	46	29	4	−13	23	**23**
−10	13	32	41	47	43	34	22	3	−18	14	−16	−10	1	25	43	53	60	55	44	30	10	−10	24	**24**
−12	11	29	39	50	47	36	24	1	−15	14	−15	−11	0	23	39	50	60	57	46	32	9	−6	24	**25**
−12	1	22	32	37	36	31	20	7	−10	10	−15	−11	−5	9	28	38	44	41	35	25	12	−4	16	**26**
−31	−9	15	31	36	35	26	7	−10	−25	0	−29	−29	−22	2	23	38	42	41	30	13	−4	−19	7	**27**
9	27	37	44	46	44	37	28	13	7	24	6	11	22	40	49	57	60	58	49	40	24	16	36	**28**
8	25	36	41	44	44	34	26	13	3	22	2	10	22	39	49	56	59	57	48	38	22	13	34	**29**
10	27	35	44	48	45	37	28	15	5	24	6	8	22	40	48	57	60	58	49	40	24	15	36	**30**
3	24	34	43	48	44	35	26	11	2	21	2	2	14	36	47	55	60	57	48	38	20	10	32	**31**
12	29	38	44	49	46	38	30	16	7	26	6	11	23	41	51	57	61	59	50	42	24	16	37	**32**
3	22	35	42	47	42	33	26	9	−6	19	−5	2	16	35	47	56	60	55	46	38	19	4	31	**33**
5	26	35	44	47	45	35	26	12	2	22	3	3	17	37	48	55	60	57	47	38	21	11	33	**34**
0	24	33	44	48	44	35	24	10	−4	20	−4	1	13	37	47	56	60	57	48	37	19	7	32	**35**
9	20	31	36	40	37	33	26	10	8	20	7	11	20	33	43	50	55	52	45	37	20	16	32	**36**
6	25	35	44	48	44	34	27	12	1	22	1	3	19	38	49	56	59	57	48	39	21	11	33	**37**
7	22	31	38	42	38	34	26	7	8	20	4	10	19	35	46	52	57	53	46	38	20	16	33	**38**
8	26	35	42	44	44	35	27	14	4	23	4	10	21	39	49	56	58	57	48	38	23	14	35	**39**
4	24	34	43	48	43	34	26	9	2	21	1	1	14	36	47	55	60	57	47	38	19	10	32	**40**
11	28	36	45	48	45	37	27	15	6	24	6	11	23	40	49	57	60	58	50	40	24	16	36	**41**
8	27	36	44	47	45	36	28	12	4	23	7	8	21	41	49	56	60	58	48	40	23	16	36	**42**
5	25	34	43	48	44	36	27	12	5	22	3	2	16	37	47	55	60	57	48	38	22	14	33	**43**
11	26	36	43	47	44	36	28	13	7	24	8	10	23	39	49	56	60	57	49	40	24	17	36	**44**
8	26	36	44	49	45	36	28	11	4	23	3	7	20	40	51	58	63	61	50	40	22	15	36	**45**
10	27	36	44	46	42	36	26	11	7	23	6	10	23	39	49	56	59	56	48	39	22	16	35	**46**
10	26	35	42	46	42	35	28	15	11	24	8	15	23	40	48	55	60	56	48	41	26	20	37	**47**
8	26	36	43	47	45	36	28	13	8	24	7	7	20	39	49	55	60	58	49	40	24	18	35	**48**
10	26	36	43	46	42	36	26	12	7	23	7	12	24	39	48	56	59	56	48	39	23	17	36	**49**
3	25	32	42	43	40	34	24	8	7	21	3	6	15	38	46	55	58	55	46	36	21	16	33	**50**

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9.—Monthly Averages of Normal Daily Maximum,

NOTE.—For all practical purposes these temperatures may be taken as the average temperature of
usually be noon to 1 p.m. in winter and 2.30 p.m. to 3.30 p.m. in midsummer in the case of
hour between 9 a.m. and

No.	Station.	Maximum.														
		J	F	M	A	M	J	J	A	S	O	N	D	Year.	J	F
	ALBERTA—*concluded.*															
	Bow River.															
1	Bassano	14	16	32	52	61	69	76	72	64	52	35	26	47	-4	1
2	Brooks	15	18	34	56	66	72	77	77	64	53	34	28	50	-5	0
3	Calgary	21	26	37	53	62	69	75	73	64	55	37	30	50	1	4
4	Cardston	29	26	40	52	59	70	78	74	63	57	39	30	52	4	5
5	Expanse Coulee	23	20	37	56	66	74	78	77	66	56	39	31	52	0	0
6	Foremost	22	23	37	52	62	70	76	74	65	53	36	30	50	2	0
7	Gleichen	17	21	33	52	64	70	76	74	64	54	38	27	49	-2	-3
8	High River	23	26	36	50	62	70	76	72	62	52	36	29	50	2	2
9	Lethbridge	27	22	40	56	64	70	80	78	66	60	42	34	53	3	2
10	Macleod	27	28	38	56	62	71	80	77	66	58	40	32	53	4	6
11	Manyberries	20	20	37	50	60	70	74	75	65	51	35	28	49	1	0
12	Medicine Hat	22	23	38	58	68	76	82	80	70	59	40	31	54	1	4
13	Pekisko	24	28	30	50	59	66	72	68	60	49	34	27	47	2	2
14	Pincher Creek	29	29	38	50	59	69	74	73	62	52	38	32	50	4	6
15	Raymond	27	24	38	55	61	71	76	74	64	60	41	33	52	3	4
16	Strathmore	15	18	31	51	60	66	76	70	61	51	34	26	47	-5	-3
	Rocky Mountains.															
17	Banff	22	27	36	48	58	65	73	67	59	48	32	25	47	4	6
18	Coalspur	18	25	35	46	54	64	72	66	61	49	31	26	46	-12	0
19	Lake Louise	18	26	34	45	56	65	72	69	56	45	30	19	45	-8	-2
	Athabaska River.															
20	Athabaska	6	21	32	52	62	70	74	70	62	51	31	22	46	-20	-6
21	Edson	17	26	37	50	62	68	72	70	64	50	35	26	48	-4	1
22	Fort Chipewyan	-4	3	16	37	52	63	69	65	53	40	20	6	35	-22	-17
23	Fort McMurray	1	16	28	52	64	72	76	72	63	47	24	4	43	-20	-14
24	Grouard	7	18	35	50	61	68	73	70	61	48	29	22	45	-12	-6
25	Jasper	18	27	35	46	62	68	72	66	64	48	34	26	47	-12	1
26	Wabasca	7	14	31	48	62	66	74	70	62	48	31	20	44	-16	-8
	Peace River.															
27	Beaver Lodge	11	20	34	49	60	69	70	72	61	49	30	24	46	-10	-5
28	Dunvegan	10	16	34	52	63	70	73	71	63	49	28	10	45	-20	-9
29	Fort Vermilion	-2	9	23	45	61	70	74	71	59	43	21	6	40	-26	-20
30	Peace River Crossing	2	16	34	49	64	70	73	70	62	50	27	15	44	-19	-10
	Beaver River.															
31	Iron River	2	10	28	47	59	70	72	68	60	48	25	16	42	-15	-9
	SASKATCHEWAN.															
	Qu'Appelle River.															
32	Davidson	8	10	26	50	62	70	76	74	63	52	31	20	45	-8	-9
33	Estevan	11	14	26	52	62	72	77	76	66	54	32	19	47	-12	-7
34	Fort Qu'Appelle	7	10	28	49	64	72	76	76	66	52	31	18	46	-14	-10
35	Grenfell	6	11	24	48	62	70	76	75	64	52	32	18	45	-10	-8
36	Hubbard	5	8	25	48	62	68	74	72	60	50	28	16	43	-16	-14
37	Humboldt	7	10	25	47	62	68	74	72	62	52	28	16	44	-12	-14
38	Indian Head	9	13	27	51	63	70	76	74	63	51	32	18	46	-11	-8
39	Kamsack	5	7	22	46	62	70	76	73	62	50	29	15	43	-18	-14
40	Moose Jaw	13	16	30	52	65	73	80	78	68	54	34	20	48	-5	-2
41	Qu'Appelle	8	11	26	49	62	71	76	73	64	52	30	18	45	-10	-7
42	Quill Lake	8	9	23	46	60	68	74	72	61	48	29	17	43	-12	-14
43	Regina	7	9	24	49	63	72	77	76	65	52	32	19	45	-14	-12
44	Whitewood	7	10	23	49	62	70	76	74	62	52	30	17	44	-12	-9
45	Yorkton	7	10	23	47	62	70	74	72	63	50	31	16	44	-17	-12
	South Saskatchewan River.															
46	Aneroid	14	16	29	52	62	71	78	76	64	54	33	26	48	-6	-5
47	Assiniboia	12	16	28	52	62	75	78	77	64	54	36	26	48	-5	-4
48	Chaplin	12	14	28	52	63	71	78	75	64	52	35	20	47	-8	-7
49	Gravelbourg	13	15	29	52	63	72	78	76	64	54	36	25	48	-6	-6
50	Klintonel	17	22	32	52	60	70	75	75	62	50	34	27	48	0	3
51	Maple Creek	18	20	32	53	64	73	77	78	68	53	37	29	50	0	2
52	Nashlyn	17	22	35	52	62	72	76	76	66	55	37	28	50	2	0
53	Shaunavon	16	20	32	52	61	70	76	76	62	52	34	26	48	-1	0
54	Swift Current	15	18	31	54	64	73	80	77	66	53	35	26	49	-2	-1

Minimum and Mean Temperatures—continued.

the warmest or coldest hour of the day, or the average temperature of the whole day. This will the maximum, the hour of sunrise in the case of the minimum, and the temperature of the 10 a.m. in the case of the mean.

Minimum.											Mean.													
M	A	M	J	J	A	S	O	N	D	Year.	J	F	M	A	M	J	J	A	S	O	N	D	Year.	No.
13	26	39	45	50	41	36	28	16	8	25	5	9	23	39	50	57	63	56	50	40	25	17	36	**1**
12	27	37	44	49	45	38	27	12	6	24	5	9	23	42	51	58	63	61	51	40	23	17	37	**2**
13	27	36	43	47	45	37	29	16	11	26	11	14	25	40	49	56	61	59	50	42	26	20	38	**3**
18	27	35	43	48	46	38	31	19	11	27	16	16	29	40	47	56	63	60	50	44	29	20	39	**4**
15	29	38	46	50	48	39	30	17	10	27	12	10	26	42	52	60	64	62	52	43	28	20	40	**5**
14	28	36	45	48	48	36	30	16	12	26	17	12	25	40	49	58	62	61	51	42	26	21	39	**6**
11	24	34	43	47	44	35	26	12	6	23	7	9	22	38	49	56	62	59	50	40	25	16	36	**7**
14	27	34	43	46	44	38	28	16	9	25	13	14	25	38	48	56	61	58	50	40	26	19	37	**8**
15	29	38	46	50	49	40	32	18	13	28	15	38	28	43	51	58	65	64	53	46	30	24	41	**9**
15	28	36	44	48	48	40	32	20	14	28	16	17	27	42	50	58	64	62	53	45	30	23	41	**10**
13	26	35	45	48	47	36	28	13	7	25	10	10	25	38	48	58	61	61	50	40	24	18	37	**11**
15	31	41	49	54	52	42	33	18	11	29	11	14	26	45	55	62	68	66	56	46	29	21	42	**12**
11	26	34	38	42	40	34	26	15	7	23	13	15	20	38	46	52	57	54	47	38	24	17	35	**13**
16	27	36	43	44	42	37	32	21	14	27	16	18	27	38	48	56	59	58	50	42	30	23	39	**14**
15	29	36	44	50	48	38	32	18	11	27	15	14	26	42	48	58	63	61	52	46	30	22	40	**15**
10	24	33	42	46	45	42	26	12	6	23	5	8	20	37	47	54	61	58	51	39	24	16	35	**16**
13	25	33	39	43	41	35	29	16	9	24	13	16	24	37	45	52	58	54	47	39	24	17	36	**17**
8	24	31	36	32	33	29	21	9	5	18	3	12	22	35	42	50	52	50	45	35	20	16	32	**18**
6	18	27	33	35	34	29	22	9	— 3	17	5	12	20	32	42	49	53	52	43	33	20	8	31	**19**
7	24	36	42	46	43	34	25	9	— 2	20	— 7	7	20	38	49	56	60	56	48	38	20	10	33	**20**
9	24	36	42	42	40	34	26	10	5	22	7	14	23	37	49	55	58	55	49	38	22	16	35	**21**
— 6	16	32	42	49	46	36	25	8	—10	17	—13	— 7	5	27	42	53	59	56	44	32	14	— 2	26	**22**
— 6	24	34	42	47	44	37	25	7	—13	17	—10	1	11	38	49	57	62	58	50	36	16	— 5	30	**23**
7	26	34	42	45	44	36	25	8	0	21	— 3	6	21	38	48	55	59	57	48	36	18	11	33	**24**
7	23	34	40	44	40	34	26	9	4	21	3	14	21	34	48	54	58	53	49	37	22	15	34	**25**
4	24	35	42	48	44	36	25	6	— 3	20	— 4	3	17	36	49	54	61	57	48	36	18	8	32	**26**
9	24	34	41	44	41	35	25	12	— 4	20	1	7	22	37	47	55	57	56	48	37	20	10	33	**27**
5	25	34	43	46	44	35	26	9	— 8	19	— 5	3	25	38	49	57	60	57	49	37	18	1	32	**28**
— 8	15	33	40	46	43	32	21	0	—15	13	—14	— 6	8	30	47	55	60	57	46	32	10	— 4	27	**29**
6	24	36	42	46	44	35	26	7	— 5	19	— 9	3	20	36	50	56	60	57	48	38	17	5	32	**30**
2	22	35	40	46	40	33	22	7	— 7	18	— 6	0	15	34	47	55	59	54	46	35	16	4	30	**31**
3	24	36	47	51	46	36	27	10	0	22	0	0	15	38	49	59	64	60	50	39	20	10	34	**32**
7	26	36	48	52	48	39	28	13	1	23	0	3	16	39	49	60	65	62	52	41	22	10	35	**33**
6	25	36	48	52	47	39	29	11	2	23	— 3	0	17	37	50	60	64	62	52	40	21	10	34	**34**
4	24	36	47	51	47	38	29	11	— 2	22	— 2	1	14	36	49	59	64	61	51	41	22	8	34	**35**
2	24	36	46	50	46	37	27	10	— 3	20	— 6	— 3	14	36	49	57	62	59	48	38	19	7	32	**36**
— 1	24	34	44	48	46	35	26	8	— 5	19	— 3	— 2	12	35	48	56	61	59	48	39	18	5	32	**37**
5	26	36	47	51	48	38	28	13	— 4	22	— 1	3	16	38	50	59	64	61	51	39	23	7	34	**38**
— 2	22	35	44	50	44	37	27	7	— 8	19	— 7	— 4	10	34	48	57	63	59	49	38	18	3	31	**39**
10	27	38	48	52	48	39	29	14	2	25	4	7	20	39	51	60	66	63	54	41	24	11	37	**40**
6	26	37	48	52	49	40	30	13	3	24	— 1	2	16	37	50	60	64	61	52	41	22	11	34	**41**
— 2	23	34	44	50	45	35	27	8	— 6	19	— 2	— 2	10	34	47	56	62	58	48	38	18	6	31	**42**
3	26	37	47	50	47	38	26	10	— 2	21	— 4	— 2	14	37	50	59	64	61	51	39	21	8	33	**43**
4	25	36	45	51	44	38	29	11	— 2	22	— 3	0	14	37	49	58	63	59	50	40	20	8	33	**44**
0	24	35	46	50	46	38	27	10	— 6	20	— 5	— 1	11	35	49	58	62	60	50	39	20	6	32	**45**
9	24	34	46	49	46	38	28	12	4	23	4	6	19	38	48	58	64	61	51	41	22	15	36	**46**
10	28	35	48	52	47	37	30	12	6	25	4	6	19	40	48	62	65	62	50	42	24	16	37	**47**
6	28	38	49	51	47	37	28	14	1	24	2	3	17	40	51	60	64	61	51	40	24	10	35	**48**
8	26	36	48	51	46	38	28	11	4	24	3	4	18	39	49	60	64	62	51	41	24	14	36	**49**
9	23	34	45	49	46	36	26	13	10	25	9	10	21	37	47	57	62	60	49	38	24	19	36	**50**
9	28	38	46	52	48	38	30	10	10	26	9	9	20	41	51	60	64	63	53	42	24	20	38	**51**
12	24	36	46	50	46	36	27	12	5	25	9	11	24	38	49	59	63	61	50	41	24	17	37	**52**
10	23	34	48	50	46	37	26	14	10	25	8	10	21	37	47	59	63	61	48	39	24	18	36	**53**
12	29	38	48	52	49	40	31	17	8	27	7	9	22	41	51	60	66	63	53	42	26	17	38	**54**

9.—Monthly Averages of Normal Daily Maximum,

NOTE.—For all practical purposes these temperatures may be taken as the average temperature of
usually be noon to 1 p.m. in winter and 2.30 p.m. to 3.30 p.m. in midsummer in the case of
hour between 9 a.m. and

No.	Station.	Maximum.														
		J	F	M	A	M	J	J	A	S	O	N	D	Year.	J	F
	SASKATCHEWAN—*concluded.*															
	North Saskatchewan River.															
1	Alsask	9	10	22	50	62	68	74	75	62	52	29	20	44	− 8	−10
2	Anglia	8	10	22	50	62	70	75	75	63	52	30	18	45	−10	−10
3	Battleford	6	10	26	50	62	70	76	74	64	52	29	16	45	−13	−12
4	Macklin	7	10	23	47	61	68	73	72	61	50	28	18	43	− 9	−10
5	St. Walburg	4	6	24	47	61	69	74	71	61	50	26	16	42	−18	−16
6	Scott	6	10	24	50	62	70	75	74	63	51	28	17	44	−10	−11
7	Waseca	6	10	24	50	62	70	72	70	62	51	28	17	44	−13	−12
	Saskatchewan Forks.															
8	Kinistino	6	10	25	46	62	70	74	73	62	50	28	16	44	−14	−12
9	Prince Albert	5	11	26	49	63	71	74	72	62	49	27	15	44	−17	−14
10	Rosthern	6	10	27	49	62	70	75	73	62	52	31	16	44	−14	−12
11	Saskatoon	7	10	26	50	62	70	75	74	63	52	32	18	45	−12	−10
	Lake Athabasca.															
12	Fond du Lac	−13	−10	10	33	50	64	69	64	52	38	16	3	23	−31	−28
	Lower Saskatchewan River.															
13	Nipawin	7	10	25	46	62	70	74	72	61	48	28	16	43	−12	−14
	MANITOBA.															
	Qu'Appelle and Assiniboine Rivers.															
14	Birtle	7	8	23	46	62	72	75	74	62	51	28	14	44	−15	−14
15	Brandon	8	11	27	52	64	73	78	76	66	53	31	18	46	−14	−12
16	Hillview	8	10	25	49	64	71	76	74	62	52	29	14	44	−10	−10
17	Minnedosa	8	12	27	50	63	72	76	74	65	51	31	18	46	−13	−12
18	Ninette	9	13	28	48	64	74	79	77	67	53	32	18	47	−12	−11
19	Ninga	9	14	27	50	64	74	79	77	67	52	32	18	47	−11	−10
20	Pierson	11	12	26	51	64	72	78	76	67	53	30	18	46	−10	−10
21	Portage la Prairie	8	12	27	49	64	74	78	75	65	53	30	17	46	−12	−10
22	Russell	5	8	22	46	62	70	76	74	62	51	30	14	43	−17	−14
23	Souris	8	11	28	51	64	73	79	77	67	51	32	16	46	−13	−12
24	Swan Lake	9	11	27	50	64	74	79	75	65	53	33	19	46	−11	−11
25	Treesbank	8	12	28	52	66	77	82	79	68	53	32	18	48	−14	−11
26	Treherne	8	10	27	50	64	74	78	74	65	53	32	18	46	−12	−10
27	Virden	7	8	26	50	63	72	76	76	65	51	29	15	45	−13	−12
	Red River.															
28	Almasippi	9	12	27	50	64	74	79	76	67	54	32	18	47	−10	−10
29	Morden	10	14	27	50	64	74	79	76	66	54	34	18	47	−10	−10
30	Morris	9	12	27	50	64	74	79	76	66	54	31	18	47	−10	−10
31	Oakbank	4	10	27	48	60	71	76	72	62	50	31	14	44	−12	− 8
32	Sprague	8	13	27	48	61	72	78	74	62	50	30	16	45	−10	−10
33	Winnipeg	6	11	26	49	64	74	78	75	65	51	30	16	45	−15	−12
	Winnipeg River.															
34	Berens River	1	8	22	43	56	70	76	72	61	49	29	12	42	−21	−17
35	Pinawa	5	8	24	46	62	72	76	72	62	48	28	15	43	−15	−12
	Dauphin Lake and River.															
36	Dauphin	7	8	24	46	62	72	76	74	62	52	33	16	44	−12	−14
37	Moose Horn Bay	6	11	24	46	62	71	78	75	63	53	30	15	44	−13	−12
38	Swan River	5	5	21	43	61	70	75	72	61	50	27	14	42	−17	−16
	Lower Saskatchewan River.															
39	The Pas	3	6	24	43	59	70	76	72	60	50	26	12	42	−18	−16
	Nelson River.															
40	Norway House	2	6	21	42	58	67	73	70	58	44	24	8	39	−21	−16
41	Port Nelson	− 9	− 6	9	27	41	54	66	63	52	36	17	− 2	29	−24	−23
	Churchill River.															
42	Churchill	−11	− 8	5	25	37	52	64	63	49	34	15	− 2	27	−27	−26
	ONTARIO.															
	Rainy River.															
43	Atikokan	11	17	33	52	66	76	80	76	66	51	33	20	48	−16	−15
44	Fort Frances	13	16	30	47	60	73	78	74	63	50	32	21	48	− 9	− 9
45	Mine Centre	9	14	31	49	63	74	79	75	63	49	29	19	46	−11	−14

Minimum and Mean Temperatures—continued.

the warmest or coldest hour of the day, or the average temperature of the whole day. This will
the maximum, the hour of sunrise in the case of the minimum, and the temperature of the
10 a.m. in the case of the mean.

Minimum.											Mean.													
M	A	M	J	J	A	S	O	N	D	Year.	J	F	M	A	M	J	J	A	S	O	N	D	Year.	No.
2	24	34	44	50	45	36	26	10	2	21	0	0	12	37	48	56	62	60	50	39	20	11	33	**1**
2	24	34	45	50	44	36	27	8	0	21	− 1	0	12	37	48	57	62	60	50	39	19	9	33	**2**
4	26	36	46	50	46	39	28	12	− 4	22	− 4	− 1	15	38	49	58	63	60	52	40	20	6	33	**3**
3	23	34	44	48	44	34	26	9	0	21	− 1	0	13	35	47	56	60	58	48	38	18	9	32	**4**
− 1	22	33	43	48	43	34	25	7	− 8	18	− 7	− 5	12	35	47	56	61	57	48	38	16	4	30	**5**
3	24	36	45	48	44	37	27	9	− 2	21	− 2	− 1	14	37	49	58	62	59	50	38	19	8	32	**6**
0	22	35	45	49	44	35	26	10	− 4	20	− 3	− 1	12	36	49	57	60	57	48	39	19	7	32	**7**
− 4	22	34	44	50	46	35	27	8	− 6	19	− 4	− 1	10	34	48	57	62	60	48	38	18	5	31	**8**
− 2	24	35	45	50	46	37	27	10	− 4	20	− 6	− 1	12	36	49	58	62	59	49	38	18	5	32	**9**
1	25	36	46	50	46	38	27	11	− 2	21	− 4	− 1	14	37	49	58	62	60	50	38	21	7	33	**10**
2	26	36	46	50	46	37	27	12	− 1	22	− 3	0	14	38	50	58	63	60	50	39	22	9	33	**11**
−12	12	30	42	50	46	38	26	3	−13	14	−22	−19	− 1	22	40	53	60	55	45	32	10	− 5	22	**12**
− 6	22	34	44	49	46	36	28	8	− 6	19	− 2	− 2	9	34	48	57	62	59	48	37	18	5	31	**13**
2	24	36	46	51	46	39	28	12	− 5	21	− 4	− 3	13	35	49	59	63	60	50	40	20	4	32	**14**
6	26	37	47	51	48	39	28	10	− 3	22	− 3	0	16	39	51	60	64	62	53	41	20	7	34	**15**
4	27	38	48	52	49	40	29	12	− 2	23	− 1	0	15	38	51	60	64	61	51	40	21	6	34	**16**
3	26	36	47	51	47	39	29	13	− 2	22	− 2	0	15	38	50	60	64	61	52	40	22	8	34	**17**
5	26	37	47	53	50	41	29	11	− 2	23	− 2	1	16	37	51	60	66	64	54	41	22	8	35	**18**
5	27	37	48	53	52	41	28	9	− 2	23	− 1	2	16	38	50	61	66	64	54	40	20	8	35	**19**
5	26	37	48	52	48	40	28	9	− 2	23	0	1	16	38	51	60	66	62	54	40	20	8	34	**20**
5	26	38	50	53	50	42	30	13	− 3	24	− 2	1	16	38	51	62	65	62	53	42	22	7	35	**21**
0	24	35	46	51	46	38	28	12	− 6	20	− 6	− 3	11	35	48	58	63	60	50	40	21	4	32	**22**
3	26	37	48	52	48	40	28	10	− 3	22	− 3	0	15	39	51	61	66	62	54	39	21	7	34	**23**
6	27	37	48	54	50	42	30	12	− 2	24	− 1	0	16	38	50	61	66	63	53	42	22	9	35	**24**
4	27	37	49	53	50	41	30	12	− 3	23	− 3	0	16	39	52	63	67	64	55	42	22	8	35	**25**
6	26	38	48	52	49	42	30	12	− 3	23	− 2	0	16	38	50	61	66	62	53	42	22	8	35	**26**
2	26	36	48	51	46	40	28	12	− 2	22	− 3	− 2	14	38	50	60	63	61	52	40	20	6	33	**27**
6	26	38	49	54	50	41	30	14	− 2	24	− 1	1	16	38	51	61	66	62	54	42	23	8	35	**28**
6	27	38	50	54	51	42	30	13	− 1	24	0	2	17	39	50	62	66	64	54	42	24	9	36	**29**
6	27	38	50	54	50	42	30	15	− 2	24	− 1	1	17	38	51	62	66	63	54	42	23	8	36	**30**
7	28	40	48	53	49	43	32	17	0	25	− 4	1	17	38	50	60	64	61	53	41	24	7	34	**31**
5	26	36	49	53	50	41	32	17	− 1	24	− 1	2	16	37	50	60	65	62	52	41	24	8	35	**32**
2	26	39	50	54	51	42	30	12	− 4	23	− 4	0	14	38	52	62	66	63	54	41	21	6	34	**33**
− 1	21	34	48	55	50	41	31	14	− 5	21	−10	− 4	11	32	45	59	66	61	51	40	21	4	31	**34**
2	24	37	49	52	49	40	31	14	− 3	22	− 5	− 2	13	35	49	60	64	60	51	40	21	6	33	**35**
0	26	36	46	50	48	40	30	12	− 4	22	− 2	− 3	12	36	49	59	63	61	51	41	22	6	33	**36**
2	25	36	47	52	49	40	31	12	− 4	22	− 3	0	13	36	49	59	65	62	52	42	21	6	33	**37**
− 4	20	34	44	50	43	37	27	8	−10	18	− 6	− 6	9	32	47	57	62	58	49	38	18	2	30	**38**
− 7	18	33	44	50	42	39	27	8	− 9	18	− 8	− 5	9	30	46	57	63	57	50	39	17	2	30	**39**
− 5	18	32	44	52	48	40	28	10	−10	18	− 9	− 5	8	30	45	56	62	59	49	36	17	− 1	29	**40**
−12	7	25	36	45	44	36	24	4	−16	12	−17	−14	− 2	17	33	45	55	53	44	30	10	− 9	21	**41**
−17	4	21	33	42	41	33	19	− 1	−19	9	−19	−17	− 6	15	29	42	53	52	41	26	7	−10	18	**42**
1	22	35	47	53	47	43	31	17	− 2	22	− 2	1	17	37	50	62	66	62	54	41	25	9	35	**43**
7	27	39	50	56	51	41	32	17	3	25	2	4	18	37	50	62	67	62	52	41	24	12	36	**44**
6	26	38	49	55	49	43	31	17	− 1	24	− 1	0	18	38	52	62	67	62	53	40	23	9	35	**45**

9.—Monthly Averages of Normal Daily Maximum,

Note.—For all practical purposes these temperatures may be taken as the average temperature of
usually be noon to 1 p.m. in winter and 2.30 p.m. to 3.30 p.m. in midsummer in the case of
hour between 9 a.m. and

No.	Station.	Maximum.														
		J	F	M	A	M	J	J	A	S	O	N	D	Year.	J	F
	Ontario—*continued.*															
	Kenora.															
1	Dryden	7	12	27	45	60	72	77	73	63	51	29	15	44	−16	−13
2	Fort Hope	2	8	22	40	55	69	73	69	58	43	27	15	40	−20	−17
3	Ignace	8	14	28	45	61	73	77	74	65	51	32	17	45	−13	−14
4	Kenora	7	12	26	45	59	72	75	72	63	48	28	15	44	−12	−12
5	Sioux Lookout	5	11	26	44	60	73	77	73	63	48	29	14	44	−16	−15
	Thunder Bay.															
6	Kakabeka Falls	13	17	30	45	60	71	75	72	63	51	33	21	46	−14	−13
7	Port Arthur	17	19	30	44	57	68	73	70	62	50	35	24	46	− 4	− 4
8	Quorn	9	14	30	48	63	74	78	73	63	48	29	16	45	−13	−15
9	Savanne	10	14	29	47	61	73	76	72	63	48	31	17	45	−14	−13
10	Schreiber	14	16	28	44	56	67	70	69	60	48	33	22	44	− 9	− 8
	Algoma.															
11	Franz	13	16	27	45	59	71	73	70	61	47	31	21	45	−13	−13
12	Hornepayne	10	12	23	43	56	71	72	71	66	50	30	16	43	−13	−16
13	Pagwa	10	14	26	46	60	72	74	71	63	45	29	17	44	−15	−12
14	Steep Hills Falls	17	19	29	45	58	69	71	69	62	49	33	23	45	− 8	− 7
15	White River	13	16	27	45	58	72	74	70	61	47	31	21	45	−14	−11
	Sudbury.															
16	Biscotasing	16	18	30	46	61	71	75	71	63	50	35	21	46	− 9	−13
17	Chapleau	13	16	27	43	59	71	73	69	61	46	30	20	44	− 8	− 9
18	Ruel	18	18	31	48	61	73	77	71	64	51	35	23	48	− 6	− 7
19	Sudbury	19	20	31	49	63	75	78	74	67	53	37	26	49	− 5	− 5
20	Turbine	19	20	31	49	62	74	78	74	67	53	37	27	49	− 5	− 5
	Timiskaming.															
21	Cochrane	13	15	29	45	59	72	76	71	61	47	30	18	45	−14	−13
22	Haileybury	18	18	31	48	62	73	78	73	64	51	35	21	48	− 4	− 4
23	Iroquois Falls	14	16	30	46	60	73	76	72	64	48	31	19	46	−14	−15
24	Kapuskasing	10	13	24	43	57	72	73	70	61	47	30	17	43	−16	−15
25	Moose Factory	8	10	24	39	53	67	73	69	61	47	29	15	41	−17	−19
26	Wawaitin Falls	16	17	30	45	60	72	76	71	63	49	32	20	46	−14	−18
	Nipissing.															
27	Algonquin Park	18	21	33	49	64	74	78	75	67	53	37	27	50	0	− 3
28	Montreal River	18	19	34	50	64	76	79	74	66	52	37	26	50	− 6	−12
29	North Bay	19	22	34	50	63	75	77	75	67	53	38	25	50	− 1	− 2
	Manitoulin Island.															
30	Gore Bay	24	23	32	48	61	71	76	74	67	55	41	30	50	5	3
31	Providence Bay	26	25	31	47	61	69	75	72	67	54	41	31	50	9	7
	Upper Ottawa River.															
32	Rutherglen	18	20	32	50	64	75	78	75	67	53	37	23	49	− 1	− 2
33	Stonecliffe	18	21	34	51	66	76	79	75	67	54	37	24	50	− 5	− 6
	Upper St. Lawrence and Lower Ottawa Rivers.															
34	Belleville	26	26	35	52	66	75	80	77	70	57	43	31	53	9	6
35	Bloomfield	27	28	35	51	65	74	80	77	71	57	43	33	53	10	9
36	Brockville	26	25	34	52	66	75	80	78	70	58	42	30	53	6	7
37	Kingston	26	26	35	50	62	70	76	75	68	56	43	32	52	10	8
38	Ottawa	20	22	33	51	66	75	79	76	68	54	39	25	51	3	3
39	Pembroke	21	23	34	51	67	76	80	76	68	55	39	26	51	0	0
40	Renfrew	21	23	34	53	67	77	80	77	70	56	39	26	52	0	0
	Georgian Bay Counties.															
41	Barrie	25	24	33	49	63	73	78	75	69	55	40	29	51	9	7
42	Beatrice	23	23	32	49	63	73	76	73	66	53	38	28	50	4	2
43	Huntsville	23	23	33	49	63	74	77	75	67	53	38	27	50	3	0
44	Orillia	26	25	34	51	65	75	78	75	69	55	40	30	52	8	6
45	Owen Sound	27	26	35	50	62	72	78	75	69	56	42	31	52	13	9
46	Parry Sound	25	24	34	49	63	73	78	74	68	55	41	30	51	5	2
47	Tobermory	27	26	33	47	59	70	75	72	67	53	41	32	50	15	13
48	Walkerton	27	25	35	51	65	74	78	77	71	57	42	31	53	13	9
	Lake Huron Counties.															
49	Brucefield	28	26	35	51	64	74	78	76	70	58	43	32	53	16	10
50	Goderich	29	27	35	51	62	72	76	74	69	57	44	33	52	16	12
51	Lucknow	27	26	36	52	65	74	79	78	71	57	44	32	54	14	10
52	Southampton	29	27	36	50	62	71	75	74	68	56	44	34	52	14	10

Minimum and Mean Temperatures—continued.

the warmest or coldest hour of the day, or the average temperature of the whole day. This will
the maximum, the hour of sunrise in the case of the minimum, and the temperature of the
10 a.m. in the case of the mean.

Minimum.											Mean.													
M	A	M	J	J	A	S	O	N	D	Year.	J	F	M	A	M	J	J	A	S	O	N	D	Year.	No.
1	26	36	49	53	46	38	29	13	– 3	22	– 4	0	14	36	48	60	65	60	50	40	21	6	33	**1**
– 6	16	36	44	50	47	39	27	12	– 7	18	– 9	– 4	8	28	46	56	62	58	48	35	20	4	29	**2**
1	23	35	47	52	47	43	29	15	– 2	22	– 2	0	14	39	48	60	64	60	54	40	24	8	34	**3**
2	26	37	50	54	50	42	32	14	0	24	– 2	0	14	36	48	61	64	61	52	40	21	8	34	**4**
– 1	23	35	48	53	49	44	29	15	– 4	22	– 6	– 2	12	34	48	60	65	61	54	38	22	5	33	**5**
1	22	33	45	48	44	39	28	15	– 1	21	0	2	16	34	46	58	62	58	51	40	24	10	34	**6**
8	26	37	46	52	48	43	33	20	5	27	6	7	19	35	47	57	63	59	53	42	27	15	36	**7**
1	21	35	47	51	47	41	27	16	– 4	21	– 2	0	16	34	49	60	64	60	52	38	22	6	33	**8**
0	20	34	44	48	44	37	27	12	– 3	20	– 2	0	14	34	48	58	62	58	50	38	22	7	32	**9**
4	23	36	44	48	46	41	31	17	3	23	2	4	16	34	46	56	59	58	50	40	25	12	34	**10**
– 1	19	39	45	50	47	39	30	15	– 2	21	0	2	13	32	49	58	62	58	50	38	23	10	33	**11**
– 1	21	40	45	49	48	44	31	13	– 6	21	– 2	– 2	11	32	48	58	60	60	55	40	22	5	32	**12**
– 5	19	40	44	50	49	41	29	15	– 4	21	– 2	1	10	32	50	58	62	60	52	37	22	6	32	**13**
2	20	41	46	50	48	42	33	19	3	24	4	6	16	32	50	58	60	58	52	41	26	13	34	**14**
– 2	19	39	44	48	46	39	30	14	– 2	21	0	2	12	32	48	58	61	58	50	38	22	10	33	**15**
2	22	34	44	48	46	41	30	17	3	22	4	2	16	34	48	58	62	58	52	40	26	12	34	**16**
3	22	42	46	51	47	42	32	17	1	24	2	4	15	32	50	58	62	58	52	39	24	10	34	**17**
6	26	38	50	52	48	41	31	20	3	25	6	6	18	37	50	62	64	60	52	41	28	13	36	**18**
10	27	39	48	54	51	44	34	23	7	27	7	8	20	38	51	62	66	62	56	44	30	16	38	**19**
8	26	38	48	52	48	42	32	23	6	26	7	8	20	38	50	61	65	61	54	42	30	16	38	**20**
1	20	35	45	50	47	41	29	15	– 1	21	0	1	15	32	47	58	63	59	51	38	22	8	33	**21**
8	27	40	50	57	52	45	35	22	4	27	7	7	20	37	51	61	67	63	55	43	28	13	37	**22**
0	20	35	46	50	47	41	30	15	0	21	0	0	15	33	48	60	63	60	52	39	23	10	34	**23**
– 6	18	38	43	49	47	39	29	12	– 5	19	– 3	– 1	9	30	48	58	61	58	50	38	21	6	31	**24**
– 5	15	32	43	50	47	41	31	15	– 5	19	– 4	– 4	10	27	42	55	62	58	51	39	22	5	30	**25**
– 4	19	34	45	50	46	40	29	14	0	20	1	0	13	32	47	58	63	58	52	39	23	10	33	**26**
10	25	36	45	51	49	41	31	22	7	26	9	9	22	37	50	60	64	62	54	42	30	17	38	**27**
3	25	37	50	54	51	44	34	21	5	26	6	4	18	38	50	63	66	62	55	43	29	16	38	**28**
11	27	40	50	56	52	44	34	26	9	29	9	10	22	38	52	62	66	64	56	44	32	17	40	**29**
13	27	39	47	52	53	47	37	27	14	30	14	13	22	38	50	59	64	64	57	46	34	22	40	**30**
15	27	40	48	52	53	47	35	27	16	31	18	16	23	37	50	58	64	62	57	44	34	24	40	**31**
10	26	39	48	53	50	43	33	23	7	27	8	9	21	38	52	62	66	62	55	43	30	15	38	**32**
8	26	39	48	53	50	44	33	22	5	26	8	9	21	39	52	62	66	62	56	43	30	14	38	**33**
18	32	44	54	58	55	48	37	28	15	34	18	16	26	42	55	64	69	66	59	47	36	23	44	**34**
19	33	43	53	59	55	50	39	29	17	35	18	18	27	42	54	64	70	66	60	48	36	25	44	**35**
17	32	43	55	59	56	50	39	27	13	34	16	16	26	42	54	65	70	67	60	48	34	22	44	**36**
19	33	45	55	61	59	52	41	30	17	36	18	17	27	41	53	63	68	67	60	48	36	24	44	**37**
15	32	45	54	59	56	48	37	26	10	32	11	12	24	42	56	64	69	66	58	46	32	18	42	**38**
12	28	42	50	54	52	44	34	23	8	29	10	12	23	40	54	63	67	64	56	44	31	17	40	**39**
13	29	42	51	55	53	45	35	23	8	30	10	12	24	41	54	64	68	65	58	46	31	17	41	**40**
17	31	43	53	57	56	50	39	29	17	34	17	16	25	40	53	63	68	66	60	47	34	23	42	**41**
13	28	40	49	54	51	45	35	24	11	30	14	13	23	39	51	61	65	62	55	44	31	19	40	**42**
12	28	40	48	53	51	44	34	24	10	29	13	12	22	38	52	61	65	63	56	44	31	18	40	**43**
16	31	43	52	57	55	49	37	31	15	33	17	16	25	41	54	63	68	65	59	46	35	22	43	**44**
17	30	41	51	56	54	49	39	29	20	34	20	18	26	40	52	62	67	64	59	48	36	26	43	**45**
13	29	41	51	56	54	47	38	26	12	31	15	13	24	39	52	62	67	64	57	46	34	21	41	**46**
18	31	42	51	58	56	51	40	31	22	36	21	20	26	39	50	60	66	64	59	46	36	27	43	**47**
17	31	41	51	55	53	49	38	29	19	34	20	17	26	41	53	62	66	65	60	48	36	25	44	**48**
20	33	44	52	57	57	49	40	30	20	36	22	18	28	42	54	63	68	66	60	50	36	26	44	**49**
21	34	44	52	57	56	51	41	32	22	37	22	20	28	42	53	62	66	65	60	49	38	28	44	**50**
18	32	42	50	54	52	48	37	28	19	34	20	18	27	42	53	62	67	65	60	47	36	26	44	**51**
18	31	42	51	57	55	50	39	30	21	35	22	18	27	40	52	61	66	65	59	48	37	27	43	**52**

9.—Monthly Averages of Normal Daily Maximum,

NOTE.—For all practical purposes these temperatures may be taken as the average temperature of
usually be noon to 1 p.m. in winter and 2.30 p.m. to 3.30 p.m. in midsummer in the case of
hour between 9 a.m. and

No.	Station.	Maximum.														
		J	F	M	A	M	J	J	A	S	O	N	D	Year.	J	F
	ONTARIO—*concluded.* *Lakes St. Clair and Erie, Niagara Peninsula.*															
1	Chatham	31	29	40	55	68	78	82	80	72	60	45	35	56	17	14
2	Grimsby	31	30	39	53	65	76	80	78	72	59	47	36	56	17	15
3	Harrow	31	31	41	55	68	78	82	81	73	61	45	36	57	19	16
4	Leamington	31	30	40	54	68	77	82	81	72	61	45	36	56	19	16
5	Pelee Island	30	28	39	53	63	75	81	79	71	59	46	34	55	19	17
6	Port Dover	29	27	37	51	63	73	79	77	70	58	45	34	54	16	12
7	Port Stanley	30	29	37	50	63	73	78	76	70	58	45	34	54	16	13
8	St. Catharines	31	30	39	53	65	76	80	78	71	59	46	36	55	17	15
9	Simcoe	29	27	38	52	66	75	80	77	71	58	45	35	54	16	13
10	Welland	31	29	39	53	66	75	81	78	71	58	45	35	55	17	14
11	Windsor	31	31	40	54	67	76	81	79	72	60	45	35	56	17	16
	West Central Counties.															
12	Alton	26	24	34	49	64	74	76	76	71	55	41	29	52	8	6
13	Brantford	29	28	38	53	67	77	82	79	72	58	45	33	55	14	11
14	Guelph	27	26	36	51	65	75	79	77	70	56	42	31	53	12	10
15	Kitchener	27	26	37	52	65	75	79	77	70	56	42	31	53	12	9
16	London	30	29	38	54	67	77	81	78	72	58	44	33	55	14	11
17	Mount Forest	26	24	34	50	64	74	78	76	70	54	40	29	52	10	6
18	Paris	29	27	38	53	67	77	82	78	72	58	45	33	55	13	11
19	Stratford	27	26	36	52	65	75	79	76	70	55	42	32	53	13	10
20	Woodstock	28	27	37	53	66	75	80	77	70	55	43	32	54	12	10
	Lake Ontario Counties.															
21	Georgetown	27	26	35	51	65	75	80	77	70	57	43	30	53	13	11
22	Hamilton	30	29	38	53	66	76	81	78	71	58	48	35	55	16	14
23	Oak Ridges	26	25	34	51	65	75	80	77	70	56	41	31	53	10	7
24	Toronto	29	29	36	50	62	72	78	76	68	55	42	32	53	15	14
	East Central Counties.															
25	Almonte	20	20	36	52	67	76	81	76	68	56	39	25	51	2	2
26	Bancroft	20	21	33	50	67	74	79	75	67	54	38	27	50	1	−1
27	Haliburton	22	24	34	50	66	74	78	76	68	55	39	27	51	3	0
28	Lakefield	24	24	35	51	65	75	79	76	69	56	41	30	52	6	4
29	Lindsay	25	24	34	52	67	76	80	78	70	56	41	30	53	7	5
30	Peterboro	25	25	35	52	66	76	81	77	70	55	41	29	53	7	5
31	Queensborough	23	23	33	51	67	76	81	77	69	56	40	28	52	6	4
	QUEBEC.															
	Middle St. Lawrence River.															
32	Bark Lake Depot	17	21	37	49	64	75	81	79	66	51	34	21	50	−3	−8
33	Beauceville	20	22	34	48	62	72	78	76	67	55	36	25	50	−4	−5
34	Berthierville	22	22	34	47	63	73	78	75	66	54	38	28	50	−2	−2
35	Brome	22	22	34	49	63	71	76	73	66	54	38	26	50	5	3
36	Cedars	22	22	33	49	63	72	78	75	68	55	39	27	50	2	4
37	Drummondville	20	22	33	50	64	72	78	76	68	55	38	25	50	−2	−1
38	Farnham	22	25	36	50	62	73	79	77	68	56	41	27	51	0	3
39	Huberdeau	16	23	36	51	67	74	79	74	68	55	37	25	50	−1	−2
40	Joliette	19	22	34	49	64	75	81	78	69	56	36	25	51	−4	−4
41	Lake Megantic	21	22	33	47	60	69	75	72	65	54	36	25	48	1	0
42	Maniwaki	22	26	37	54	68	77	81	77	69	57	41	27	53	−7	−5
43	Montreal	21	22	33	49	64	73	78	75	66	53	39	26	50	5	7
44	Nicolet	19	21	33	48	64	72	78	75	67	54	37	25	49	0	−2
45	Nominingue	19	21	34	48	63	72	78	74	65	52	35	23	49	−7	−3
46	Quebec	18	20	30	44	60	71	76	72	64	50	35	22	47	2	3
47	St. Lin	17	20	32	49	64	73	80	77	68	54	36	24	50	−5	−5
48	Sherbrooke	23	22	34	49	63	72	78	75	66	55	39	27	50	3	2
49	Sorel	18	20	33	48	64	73	78	76	68	54	37	24	50	−4	−3
50	Three Rivers	20	23	34	48	63	74	78	75	67	53	39	26	50	−1	−1
	Lower St. Lawrence and Gulf.															
51	Anticosti	20	20	27	36	46	55	62	62	55	46	36	26	41	5	6
52	Armagh	15	19	32	44	60	69	75	73	64	52	36	22	47	−2	1
53	Causapscal	13	18	30	42	58	69	75	71	62	49	35	20	45	−8	−4
54	Clarke City	13	17	29	40	52	64	70	68	59	47	34	20	43	−8	−6
55	Father Point	18	19	30	41	53	61	67	64	58	47	35	24	43	0	2
56	Gaspé	18	21	30	42	54	66	76	72	63	53	37	26	47	−2	−2
57	Natashquan	17	15	25	39	48	57	64	64	55	46	33	24	41	−3	−8
58	Seven Falls	16	20	33	46	61	70	76	73	64	52	35	21	47	−10	−8
59	Tadoussac	16	18	31	43	57	68	72	70	61	50	36	22	45	6	3

Minimum and Mean Temperatures—continued.

the warmest or coldest hour of the day, or the average temperature of the whole day. This will the maximum, the hour of sunrise in the case of the minimum, and the temperature of the 10 a.m. in the case of the mean.

Minimum.											Mean.													
M	A	M	J	J	A	S	O	N	D	Year.	J	F	M	A	M	J	J	A	S	O	N	D	Year.	No.
24	36	45	55	59	57	51	41	31	23	38	24	22	32	45	56	66	70	68	62	50	38	29	47	1
23	34	45	55	60	59	52	41	33	23	38	24	23	31	44	55	66	70	68	62	50	40	30	47	2
25	37	48	56	62	58	54	42	33	24	40	25	24	33	46	58	67	72	70	64	52	39	30	44	3
25	37	47	56	60	58	54	41	32	24	39	25	23	32	46	58	66	71	70	63	51	38	30	43	4
27	37	50	62	66	66	58	46	36	25	42	24	22	33	44	56	68	74	72	64	52	41	30	44	5
23	34	45	55	60	58	52	41	32	22	37	23	20	30	42	54	64	69	67	61	49	38	28	46	6
22	34	44	53	59	57	51	40	31	22	37	23	21	30	42	54	63	68	66	60	49	38	28	45	7
23	33	45	55	60	59	53	41	33	22	38	24	22	31	43	55	66	70	68	62	50	40	29	46	8
22	33	45	54	60	58	51	40	31	21	37	22	20	30	42	56	64	70	68	60	49	38	28	46	9
23	33	45	55	60	59	53	41	31	19	38	24	22	31	43	56	65	70	68	62	50	38	27	46	10
26	37	47	56	61	59	54	42	32	23	39	24	24	33	46	57	66	71	69	63	51	38	29	48	11
14	30	41	49	54	52	44	37	26	15	31	17	15	24	40	52	62	66	64	58	46	34	22	42	12
21	33	43	53	57	55	49	37	29	19	35	22	20	30	43	55	65	70	67	60	48	38	26	45	13
18	32	42	53	56	54	47	38	28	18	34	20	18	27	42	53	64	68	66	58	47	35	24	44	14
18	31	42	53	56	52	46	37	28	17	33	20	18	28	42	54	64	68	64	58	46	35	24	43	15
21	33	44	53	57	55	49	38	30	20	36	22	20	30	44	56	65	69	66	60	48	37	27	46	16
16	30	41	50	52	52	46	37	26	16	32	18	15	25	40	52	62	65	64	58	46	33	22	42	17
20	32	43	53	57	55	48	37	29	19	35	21	19	29	42	55	65	70	66	60	48	37	26	45	18
18	32	43	52	56	53	48	38	29	19	34	20	18	27	42	54	64	68	64	59	46	36	26	44	19
20	32	43	52	56	54	48	37	28	18	34	20	19	28	43	54	63	68	65	59	46	36	25	44	20
19	33	43	52	57	55	48	38	28	19	35	20	18	27	42	54	64	68	66	59	48	36	24	44	21
23	34	46	55	60	58	52	41	30	22	38	23	22	30	44	56	66	70	68	62	50	39	26	46	22
18	32	42	52	56	54	46	37	27	16	33	18	16	26	42	54	64	68	66	58	46	34	24	43	23
22	33	43	53	58	57	50	39	30	20	36	22	22	29	41	53	63	68	67	59	47	36	26	44	24
16	32	42	51	57	53	46	38	26	12	31	11	11	26	42	54	63	69	65	57	47	32	18	41	25
11	28	39	48	53	49	43	33	23	9	28	10	10	22	39	53	61	66	62	55	44	30	18	39	26
11	27	39	47	53	49	43	33	23	10	28	12	12	22	38	52	60	66	62	55	44	31	18	40	27
15	32	44	54	58	56	50	38	27	13	33	15	14	25	41	55	64	69	66	59	47	34	21	42	28
16	31	43	52	56	53	47	36	26	14	32	16	15	25	42	55	64	68	66	58	46	34	22	42	29
16	31	43	52	57	54	48	37	27	13	33	16	15	26	42	54	64	69	66	59	46	34	21	43	30
16	30	42	53	57	54	47	38	27	14	32	14	14	24	40	54	64	69	66	58	47	34	21	42	31
10	25	38	49	54	50	46	36	21	3	27	7	7	24	37	51	62	67	65	56	44	27	12	38	32
10	26	38	47	54	51	43	34	21	7	27	8	9	22	37	50	59	66	63	55	45	29	16	38	33
12	29	41	51	56	54	46	35	25	12	30	10	10	23	38	52	62	67	65	56	44	32	20	40	34
15	32	42	50	56	52	46	36	25	11	31	13	12	24	39	52	60	66	62	56	45	32	18	40	35
17	32	44	54	59	57	48	39	25	10	33	12	13	25	41	53	63	68	66	58	47	32	19	41	36
13	30	42	51	57	54	46	36	23	7	30	9	10	23	40	53	62	68	65	57	46	31	16	40	37
20	30	45	51	57	53	46	36	25	8	31	11	14	28	40	53	62	68	65	57	46	33	17	41	38
13	29	38	50	55	52	50	35	23	8	29	8	11	24	40	52	62	67	63	59	45	30	17	40	39
12	30	41	53	58	54	46	32	23	6	29	8	9	23	39	53	64	69	66	58	44	30	16	40	40
12	27	38	48	55	52	45	36	22	9	29	11	11	23	37	48	59	65	62	55	44	29	17	38	41
10	26	39	49	52	49	44	33	21	4	26	7	11	24	40	54	63	66	63	57	45	31	15	40	42
18	33	46	56	61	59	51	40	27	13	35	13	14	26	41	55	65	70	67	59	47	33	20	42	43
12	31	43	52	58	57	48	37	24	8	31	10	9	23	40	54	62	68	66	57	46	31	16	40	44
12	26	39	48	53	50	43	34	19	4	27	6	9	23	38	51	60	65	62	54	43	27	13	38	45
14	28	41	51	57	54	47	37	24	9	30	10	12	22	36	51	61	67	64	56	44	30	16	38	46
9	29	41	50	56	54	44	34	21	4	28	6	8	21	39	52	62	68	66	56	44	29	14	39	47
16	30	42	50	57	53	46	37	26	11	31	13	12	25	39	53	61	68	64	56	46	32	19	41	48
12	30	42	52	57	54	46	36	23	6	29	7	9	23	39	53	63	68	65	57	45	30	15	39	49
14	28	41	51	56	53	45	36	24	8	30	10	11	24	38	52	62	67	64	56	44	32	17	40	50
15	26	35	45	51	51	44	35	26	14	29	12	13	21	31	40	50	57	56	49	40	31	20	35	51
13	26	38	49	55	52	44	33	22	6	28	6	10	23	35	49	59	65	63	54	42	28	14	37	52
8	21	34	44	49	47	39	29	21	6	24	2	7	19	32	46	57	62	59	50	39	28	13	34	53
6	21	34	43	51	48	39	32	18	2	23	2	6	17	30	43	53	60	58	49	39	26	11	33	54
14	26	36	44	49	47	42	34	23	9	27	9	10	22	34	44	53	58	56	50	40	29	16	36	55
10	24	36	44	52	54	41	33	22	8	27	8	9	20	33	45	56	64	63	52	43	29	18	37	56
6	22	33	41	49	49	40	32	20	9	24	7	3	15	31	40	49	56	56	47	39	26	17	32	57
8	24	35	44	49	46	39	30	18	2	23	3	6	21	35	48	56	63	60	52	42	27	12	35	58
16	30	41	50	55	52	44	36	24	9	31	11	10	24	36	49	59	63	61	52	43	30	16	38	59

9.—Monthly Averages of Normal Daily Maximum,

NOTE.—For all practical purposes these temperatures may be taken as the average temperature of
usually be noon to 1 p.m. in winter and 2.30 p.m. to 3.30 p.m. in midsummer in the case of
hour between 9 a.m. and

No.	Station.	Maximum.														
		J	F	M	A	M	J	J	A	S	O	N	D	Year.	J	F
	QUEBEC—concluded.															
	Lake St. John.															
1	Mistassini	9	12	27	43	58	68	75	71	62	49	30	17	43	−15	−13
2	Roberval	11	14	30	44	60	69	76	73	63	50	32	17	45	−10	− 9
	Upper St. Maurice.															
3	La Loutre Rapids	12	16	29	44	57	60	74	72	62	48	31	17	44	−11	− 9
4	Lake Kempt	13	17	30	42	56	67	71	71	62	49	32	20	44	−14	−15
5	La Tuque	14	17	31	48	63	73	79	75	65	52	34	20	48	− 7	− 6
6	Manouan	12	16	30	44	59	69	74	69	63	50	32	20	46	−13	−12
	Northwestern Districts.															
7	Abitibi	12	13	28	42	55	63	73	69	60	47	31	17	42	−11	−12
8	Amos	10	14	27	42	57	69	74	70	60	46	31	16	43	−14	−12
9	Mistissini Post	6	11	24	40	54	67	72	67	48	37	21	3	38	−18	−16
10	Quinze Dam	17	21	35	50	63	76	80	74	64	49	33	20	49	− 7	− 9
11	Spirit Lake	10	15	29	41	59	70	73	70	60	45	30	16	43	−15	− 9
12	Ville Marie	17	18	31	48	63	74	80	74	65	51	35	22	48	− 9	− 9
	Hudson Bay.															
13	Fort George	− 2	1	13	31	46	56	63	60	52	40	28	12	34	−22	−20
14	Port Harrison	−11	−10	3	21	36	46	55	54	47	35	24	7	26	−26	−26
	NEW BRUNSWICK.															
15	Bathurst	22	25	34	45	58	70	77	74	67	54	40	28	50	− 2	0
16	Chatham	22	25	35	47	60	71	77	75	67	54	39	27	50	3	2
17	Chipman	23	23	36	48	64	73	79	75	70	56	41	26	51	− 1	− 2
18	Dalhousie	18	21	31	43	56	67	73	71	63	50	36	24	46	− 1	2
19	Edmundston	19	21	34	47	60	72	77	76	67	54	38	24	49	− 5	− 2
20	Fredericton	23	26	36	49	62	72	77	75	67	55	40	28	51	2	3
21	Grand Falls	21	20	34	46	60	69	76	73	63	52	40	22	48	− 4	− 1
22	Grand Manan	30	31	37	47	56	64	70	79	63	54	45	35	50	15	16
23	Hardwood Ridge	23	25	36	47	60	70	76	73	65	54	40	29	50	1	1
24	Harvey	22	24	36	46	61	72	77	74	60	55	41	27	50	2	3
25	McAdam	22	24	36	47	61	70	76	73	66	55	40	27	50	− 4	− 2
26	Moncton	28	25	36	47	60	69	77	73	65	55	42	31	51	5	3
27	Plaster Rock	12	18	30	42	56	70	74	71	66	52	36	19	46	− 5	− 7
28	St. Andrews	31	28	35	48	58	68	73	71	64	53	44	34	51	9	10
29	Saint John	28	28	36	46	56	64	68	68	63	54	42	32	49	10	12
30	St. Stephen	27	26	38	50	63	72	77	76	68	57	43	30	52	7	4
31	Sussex	26	24	35	47	62	69	77	74	66	57	43	30	51	8	5
32	Williamsburg	18	22	33	48	59	70	76	74	64	54	37	26	48	0	− 2
33	Woodstock	20	24	34	47	60	72	77	75	68	56	40	26	50	− 3	0
	NOVA SCOTIA.															
34	Annapolis Royal	31	31	38	49	60	69	74	73	69	58	44	34	53	15	15
35	Antigonish	31	28	37	46	60	67	74	74	67	58	45	36	52	9	7
36	Collegeville	29	29	38	46	58	68	75	75	68	57	44	34	52	6	5
37	Glace Bay	30	28	34	40	52	62	72	71	64	55	43	34	49	14	13
38	Halifax	32	31	38	48	58	68	74	74	68	57	46	36	52	14	14
39	Kentville	26	24	36	48	59	70	76	75	68	58	42	30	51	13	13
40	Liverpool	32	33	41	50	59	69	75	74	68	61	47	37	54	14	14
41	Mount Uniacke	30	28	37	45	58	68	75	74	67	55	43	34	51	8	6
42	Nappan	24	25	35	46	58	68	73	74	66	56	40	28	49	9	8
43	Pictou	28	28	36	46	59	68	75	73	66	55	45	34	51	14	13
44	Sable Island	36	34	37	42	49	56	64	68	64	57	49	41	50	25	23
45	Saulnierville	33	31	38	46	54	62	67	67	62	56	44	36	50	18	17
46	Springfield	37	34	40	50	60	70	74	73	67	59	47	39	54	17	12
47	Springhill	26	25	36	45	59	69	74	72	65	56	42	29	50	7	10
48	Stillwater	28	28	36	45	56	66	72	73	66	56	43	33	50	5	4
49	Sydney	30	29	35	43	56	66	73	73	66	56	45	35	51	14	11
50	Truro	30	30	37	47	60	69	76	74	67	56	45	34	52	9	9
51	Upper Stewiacke	28	29	39	48	60	71	76	76	69	58	43	33	53	5	5
52	Windsor	30	29	37	47	60	68	75	73	67	57	42	33	52	13	12
53	Wolfville	32	29	39	49	61	69	76	74	67	57	45	35	53	13	12
54	Yarmouth	34	32	38	47	56	63	68	68	63	56	46	37	51	20	19
	PRINCE EDWARD ISLAND.															
55	Charlottetown	26	26	33	43	56	66	73	72	65	54	42	31	49	9	4
56	Hamilton	26	24	33	43	56	65	73	71	63	54	41	30	48	11	8
57	Kilmahumaig	23	25	31	42	56	67	72	72	66	53	42	20	47	4	4
58	Summerside	27	26	33	43	55	65	72	71	64	54	42	32	49	9	10

Minimum and Mean Temperatures—concluded.

the warmest or coldest hour of the day, or the average temperature of the whole day. This will the maximum, the hour of sunrise in the case of the minimum, and the temperature of the 10 a.m. in the case of the mean.

Minimum.											Mean.													
M	A	M	J	J	A	S	O	N	D	Year.	J	F	M	A	M	J	J	A	S	O	N	D	Year.	No.
2	23	37	46	53	50	42	32	17	−1	23	−2	0	14	33	48	57	64	60	52	40	24	7	33	**1**
8	26	39	50	56	52	43	33	18	3	26	0	2	19	35	50	60	66	62	53	41	25	10	35	**2**
4	22	33	45	50	48	41	31	17	0	23	0	3	17	33	45	57	62	60	52	39	24	8	33	**3**
2	14	27	38	43	43	37	28	13	−7	17	0	1	16	28	42	53	57	57	50	38	22	6	30	**4**
9	27	34	48	53	52	44	34	28	7	27	3	6	20	37	49	61	66	63	54	43	31	14	37	**5**
6	21	34	43	48	47	38	28	16	2	22	−1	2	18	32	46	56	61	58	51	39	24	11	33	**6**
1	21	36	49	55	52	44	34	19	0	24	0	1	15	32	46	56	64	61	52	40	25	8	33	**7**
2	20	34	44	49	48	39	31	18	−3	21	−2	1	15	32	45	57	62	59	50	39	24	6	32	**8**
5	18	30	42	49	46	39	30	15	−7	19	−6	−2	14	29	42	54	60	57	48	37	21	3	30	**9**
4	24	37	46	49	44	39	29	17	6	23	5	6	19	37	50	61	65	59	51	39	25	13	36	**10**
4	20	30	45	51	49	41	31	15	−2	22	−2	3	16	31	44	57	62	60	50	38	22	7	32	**11**
5	25	38	48	53	50	34	34	21	3	24	4	4	18	36	50	61	66	62	50	43	28	12	36	**12**
−11	12	28	39	46	45	40	30	17	−3	17	−12	−9	1	22	37	48	54	53	46	35	23	4	25	**13**
−15	2	22	32	39	40	35	25	12	−8	11	−18	−18	−6	12	29	39	47	47	41	30	18	0	18	**14**
11	24	37	48	55	53	45	34	23	8	28	10	12	22	35	47	59	66	64	56	44	32	18	39	**15**
14	28	39	48	56	54	46	36	25	11	30	13	14	24	37	49	60	66	64	56	45	32	19	40	**16**
16	28	37	45	51	49	39	32	23	7	27	11	10	26	38	50	59	65	62	54	44	32	16	39	**17**
11	24	36	46	53	52	44	34	23	9	28	9	11	22	33	46	57	63	61	54	42	30	17	37	**18**
9	25	35	46	52	49	41	32	21	8	26	7	9	22	36	47	59	64	63	54	43	30	16	38	**19**
16	28	39	48	55	53	45	36	24	10	30	13	15	26	39	51	60	66	64	56	45	32	19	40	**20**
11	26	40	48	56	47	43	29	24	7	27	9	10	23	36	50	59	66	60	53	41	32	15	38	**21**
24	33	41	48	54	54	47	42	32	20	36	23	23	31	40	48	56	62	61	55	48	39	28	43	**22**
16	27	37	46	54	52	43	35	23	11	29	12	13	26	37	49	58	64	62	49	45	32	20	40	**23**
17	28	39	49	54	52	44	35	24	11	30	12	14	26	37	50	60	66	63	52	45	32	19	40	**24**
12	26	36	45	55	48	42	32	20	4	26	9	11	24	37	49	58	66	60	54	43	30	15	38	**25**
17	29	39	46	55	51	45	36	26	12	30	16	14	27	38	50	58	66	62	55	45	34	22	40	**26**
8	20	30	42	45	43	34	28	18	4	22	4	5	19	31	43	56	60	57	50	40	27	11	34	**27**
19	30	39	48	53	53	47	38	29	15	32	18	20	28	39	48	57	63	62	56	46	36	24	41	**28**
21	31	41	49	54	54	49	40	30	16	34	19	20	28	39	48	56	61	61	56	47	36	24	41	**29**
17	28	39	46	54	51	43	35	27	13	30	17	15	27	39	51	59	66	63	55	46	35	22	41	**30**
18	28	38	46	54	51	44	36	28	14	31	17	15	26	37	50	58	66	62	55	46	35	22	41	**31**
12	28	36	46	54	51	42	33	21	8	27	9	10	23	38	48	58	65	62	53	44	29	17	38	**32**
13	26	39	48	56	54	44	36	24	8	29	9	12	23	36	50	60	66	64	56	46	32	17	39	**33**
22	31	40	48	54	53	47	40	31	22	35	23	23	30	40	50	59	64	63	58	49	38	28	44	**34**
18	28	34	44	54	53	45	38	29	18	31	20	18	27	37	47	56	64	63	56	48	37	27	42	**35**
17	29	36	45	53	53	46	37	28	16	31	18	17	28	37	47	57	64	64	57	47	36	25	41	**36**
18	26	34	43	52	54	48	39	28	20	32	22	20	26	33	43	53	62	62	56	47	36	27	41	**37**
23	31	40	48	55	56	49	40	32	21	35	23	23	30	39	49	58	65	65	58	49	39	28	44	**38**
22	32	39	48	55	54	47	41	30	19	34	20	19	29	40	49	59	66	64	57	49	36	24	43	**39**
22	30	37	44	52	51	45	40	29	21	33	23	24	31	40	48	56	64	62	57	50	38	29	44	**40**
17	25	34	41	48	47	39	33	26	16	28	19	17	27	35	46	54	61	60	53	44	35	25	40	**41**
20	30	38	47	54	53	47	39	29	16	33	17	17	27	38	48	58	63	63	57	48	34	22	41	**42**
22	31	40	50	57	57	50	42	32	20	36	21	20	29	39	50	59	66	65	58	48	39	27	43	**43**
27	33	39	46	54	58	55	48	40	31	40	31	28	32	37	44	51	59	63	59	52	45	36	45	**44**
24	32	40	48	54	54	48	43	32	23	36	25	24	31	39	47	55	60	61	55	49	38	30	43	**45**
20	29	42	52	56	54	47	40	31	23	35	27	23	30	38	51	61	65	64	57	50	39	31	44	**46**
19	27	39	48	56	53	47	39	28	14	32	16	17	27	36	49	58	65	63	56	48	35	27	41	**47**
17	28	35	44	51	52	42	35	27	15	30	16	16	27	37	45	55	62	62	54	45	35	24	40	**48**
19	28	37	45	55	55	48	40	32	23	34	22	20	27	36	46	55	64	64	57	48	38	29	42	**49**
19	29	38	47	53	53	45	37	28	16	32	19	19	28	38	49	58	64	63	56	46	37	25	42	**50**
18	28	36	45	52	51	42	34	25	14	30	17	17	28	38	48	58	64	63	56	46	34	24	41	**51**
21	31	40	48	56	54	48	38	29	18	34	22	20	29	39	50	57	66	64	58	48	38	27	43	**52**
21	32	40	48	56	54	47	39	30	19	34	22	20	30	40	50	58	66	64	57	48	38	27	43	**53**
26	33	41	48	53	53	49	42	34	24	37	27	25	32	40	48	55	61	61	56	49	40	31	44	**54**
19	29	39	49	58	58	50	41	31	18	34	17	15	26	36	48	58	65	65	58	47	36	25	41	**55**
17	29	39	48	58	56	50	40	31	17	34	18	16	25	36	47	57	66	64	57	47	36	24	41	**56**
15	25	37	47	54	54	48	37	27	14	30	14	15	23	34	46	57	63	63	57	45	34	17	39	**57**
18	29	39	49	57	56	50	40	30	17	34	18	18	26	36	47	57	65	64	57	47	36	24	41	**58**

10.—Normal Monthly and Total Precipitation in Inches.

NOTE.—In these figures, 10 inches of snowfall is calculated as equivalent to 1 inch of precipitation.

Station.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
BRITISH COLUMBIA.													
Vancouver Island.													
Alberni	9·54	7·98	6·17	4·37	2·92	2·35	0·95	1·21	3·37	6·58	11·42	11·50	68·36
Clayoquot	14·61	12·41	11·88	8·74	6·20	4·11	2·12	3·37	7·21	12·41	17·82	17·29	118·17
James Island	3·98	2·89	2·27	1·12	0·79	0·75	0·48	0·65	1·50	2·74	3·69	5·63	26·49
Nanaimo	6·12	4·59	3·23	1·77	1·81	1·61	0·75	0·83	2·03	3·19	7·28	6·67	39·88
Quatsino	12·14	9·51	9·23	6·99	4·88	3·72	2·23	3·33	6·39	11·02	15·73	15·67	100·84
Ucluelet	12·71	10·90	10·38	7·30	4·91	3·16	1·75	2·68	6·83	11·52	12·83	17·26	102·23
Vananda	4·28	3·32	2·10	1·71	1·48	1·61	0·73	1·87	2·40	3·97	4·72	6·05	34·24
Victoria	4·63	3·21	2·37	1·47	1·11	0·87	0·39	0·62	1·78	2·65	5·02	5·58	29·70
South Coast.													
Britannia Beach	10·37	6·77	7·51	4·95	3·25	2·98	1·68	2·02	5·84	8·84	10·13	10·61	74·95
Queen Charlotte Islands.													
Massett	5·63	4·10	3·78	4·84	4·17	2·42	2·64	2·65	4·07	6·20	7·41	6·42	54·33
North Coast.													
Anyox	9·94	7·83	5·69	3·38	2·24	1·73	2·56	5·34	5·80	11·21	14·60	12·34	82·66
Bella Coola	4·95	3·35	3·66	1·97	1·97	1·86	1·84	1·99	4·17	6·58	7·56	5·78	45·68
Prince Rupert	9·56	7·95	9·50	7·08	4·82	4·21	4·47	5·19	7·91	12·66	14·19	15·87	103·41
Rivers Inlet	12·26	10·56	7·33	8·48	5·04	4·35	3·41	4·80	10·51	13·99	16·36	16·46	112·55
Skeena and Naas Rivers.													
Babine Lake	1·95	0·98	1·04	0·97	1·43	2·03	1·54	2·01	1·78	2·22	1·87	1·72	19·54
New Hazelton	1·69	0·99	0·77	0·53	0·90	1·67	2·14	1·62	1·74	2·18	2·40	1·55	18·18
Terrace	3·86	3·15	2·57	1·55	1·77	2·03	2·29	1·69	3·42	5·10	7·97	6·86	42·26
Upper Fraser River.													
Barkerville	3·36	2·51	2·47	2·15	2·49	3·52	3·10	3·31	3·63	3·19	3·35	3·43	36·51
Big Creek	0·72	0·79	0·50	0·42	1·11	1·59	1·46	1·62	1·20	0·58	0·96	1·09	12·04
Cranberry Lake	2·10	1·31	1·53	1·74	0·96	1·46	1·59	1·05	1·81	1·96	1·31	1·97	18·79
Fort St. James	1·51	1·16	1·19	0·91	1·09	1·49	1·30	1·25	1·34	1·38	1·63	1·44	15·69
Prince George	2·10	1·05	1·50	1·02	1·12	1·60	1·51	1·97	1·49	1·74	1·52	1·63	18·25
Quesnel	2·40	1·95	1·21	1·27	1·99	2·85	1·92	1·85	2·37	1·99	2·32	1·96	24·08
Lillooet Lake.													
Pemberton Hatchery	4·10	2·41	2·13	1·41	1·35	1·46	0·98	1·45	2·47	3·49	5·66	4·18	31·09
Lower Fraser River.													
Agassiz	7·49	5·77	5·44	4·90	4·75	4·76	2·05	2·48	4·74	6·62	8·82	8·26	66·08
Chilliwack	8·34	6·04	5·09	3·51	3·74	3·02	1·53	1·97	4·14	6·39	8·71	8·93	61·41
Ladner	4·72	4·23	3·06	2·00	2·08	1·62	1·11	1·15	2·63	3·84	5·74	5·26	37·44
New Westminster	8·20	5·78	4·92	3·48	2·93	3·04	1·29	1·59	4·08	4·55	8·63	7·86	56·35
Vancouver	8·40	6·03	4·98	3·29	2·99	2·57	1·23	1·70	4·07	5·65	9·52	8·22	58·65
Middle Fraser River.													
Hope	8·39	5·78	5·57	2·86	2·74	1·70	1·55	1·75	3·80	6·82	9·34	9·16	59·46
Lillooet	1·46	0 80	0·74	0·54	1·00	1·41	1·01	0·98	0·87	0·91	1·32	1·84	12·88
Nicola, Okanagan and Similkameen Valleys.													
Hedley	1·21	1·23	0·52	0·63	1·41	1·33	1·15	1·01	0·83	0·79	0·99	1·08	12·18
Kelowna	1·24	0·88	0·74	0·77	0·95	1·32	0·94	0·60	0·96	0·97	1·13	1·48	11·98
Keremeos	0·63	0·36	0·51	0·76	1·02	1·14	0·69	0·74	0·78	0·76	0·99	0·65	9·02
Merritt	0·99	0·74	0·89	0·62	0·38	0·64	0·44	0·83	0·62	0·71	1·24	1·52	9·62
Penticton	0·92	0·66	0·50	0·80	1·33	1·38	0·93	0·98	1·01	0·79	1·10	0·97	11·37
Princeton	1·43	1·03	0·68	0·58	1·12	1·09	1·15	0·93	0·97	0·85	1·42	1·58	12·83
Summerland	0·97	0·94	0·49	0·58	1·42	1·49	1·18	0·92	1·02	0·68	0·86	0·92	11·47
Vernon	1·95	0·75	0·86	0·85	0·85	1·83	0·63	1·48	1·19	1·12	1·36	1·84	14·71
Kettle Valley.													
Grand Forks	1·68	1·04	0·97	1·23	1·67	1·96	1·03	0·90	1·11	1·08	1·50	1·65	15·82
Greenwood	2·06	1·17	1·35	1·57	2·76	2·09	1·82	1·24	1·58	1·16	1·44	2·11	20·35
Rock Creek	1·42	0·86	1·03	1·16	1·50	1·84	1·30	1·11	1·04	0·94	1·18	1·29	14·67
West Kootenay.													
Boswell	2·59	2·10	1·79	1·06	1·65	1·52	1·16	1·10	1·39	1·57	2·01	2·23	20·17
Crawford Bay	4·42	2·86	2·77	1·91	1·89	1·92	1·39	1·74	2·04	2·19	3·37	4·34	30·84
Creston	2·40	1·58	1·71	1·20	1·76	1·44	1·22	0·74	1·13	1·32	2·26	2·46	19·22
Kaslo	3·50	2·09	1·40	1·32	1·75	2·07	1·54	1·09	1·93	1·93	2·65	2·87	24·14
Nelson	3·18	2·02	1·83	1·60	2·31	2·58	1·88	1·49	1·83	2·18	3·12	2·92	26·94
East Kootenay.													
Cranbrook	2·38	1·38	1·08	0·82	1·34	1·74	1·50	0·77	1·03	0·87	1·46	1·46	15·83
Fernie	5·45	2·57	3·55	2·65	2·76	2·63	1·47	1·41	2·64	3·32	4·26	4·72	37·43
Invermere	0·99	0·62	0·35	0·68	1·35	1·63	1·29	1·43	1·07	0·71	0·63	1·02	11·77
Newgate	1·41	1·11	0·72	0·91	1·17	1·33	1·03	1·02	0·95	1·06	1·21	1·57	13·49

10.—Normal Monthly and Total Precipitation in Inches—continued.

NOTE.—In these figures, 10 inches of snowfall is calculated as equivalent to 1 inch of precipitation.

Station.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
BRITISH COLUMBIA—*concluded*.													
Thompson River.													
Armstrong	2·02	1·21	0·91	1·02	1·19	2·20	1·25	1·09	1·39	1·74	1·81	1·64	17·47
Chinook Cove	1·88	1·09	0·90	0·76	1·44	1·76	1·43	0·94	1·21	1·25	1·33	1·49	15·48
Kamloops	0·92	0·72	0·34	0·40	0·94	1·33	1·08	1·10	0·96	0·61	0·93	1·52	10·85
Salmon Arm	2·99	1·49	1·14	1·10	1·26	1·91	1·17	1·28	1·18	1·42	2·08	2·35	19·37
Vavenby	1·62	0·57	0·77	0·59	1·25	1·55	1·52	1·03	1·40	1·16	1·02	1·27	13·75
North Columbia River.													
Glacier	8·92	5·99	5·98	2·70	2·34	3·14	2·72	2·83	4·18	4·61	8·49	8·23	60·13
Golden	2·67	0·95	0·85	0·58	1·10	1·86	1·55	1·35	1·54	1·43	2·13	1·73	17·74
Revelstoke	5·59	3·92	2·92	1·98	2·38	2·78	2·48	2·40	3·03	3·85	5·15	4·68	41·16
Peace River.													
Hudson's Hope	1·58	0·65	1·26	0·56	1·63	1·99	3·39	1·78	1·53	0·99	1·35	1·22	17·93
Yukon Boundary.													
Atlin	1·01	0·82	0·60	0·33	0·43	0·77	1·01	0·92	1·23	1·19	1·19	1·19	10·69
YUKON.													
Carcross	0·48	1·03	0·49	0·27	0·40	0·79	1·10	0·83	1·13	0·91	1·03	0·64	9·10
Dawson	0·83	0·71	0·53	0·57	0·91	1·22	1·54	1·42	1·46	1·14	1·16	1·00	12·49
Swede Creek	0·63	0·66	0·46	0·41	0·76	0·88	1·17	1·34	1·11	0·86	0·64	0·82	9·74
NORTHWEST TERRITORIES.													
Fort Good Hope	0·47	0·54	0·59	0·54	0·64	1·02	1·39	1·63	1·15	1·04	0·72	0·52	10·25
Fort McPherson	0·68	0·49	0·46	0·80	0·44	1·02	1·18	1·82	1·14	0·81	0·67	0·77	10·28
Fort Norman	0·39	0·48	0·54	0·49	1·09	1·33	1·85	1·94	1·01	0·85	0·36	0·37	10·70
Fort Resolution	0·58	0·61	0·56	0·37	0·87	1·21	1·05	1·36	1·51	1·21	1·30	0·63	11·26
Fort Simpson	0·62	0·73	0·49	0·79	1·40	1·60	1·78	1·45	1·68	1·32	0·73	0·86	13·45
Fort Smith	0·57	0·52	0·29	0·33	0·87	1·79	1·66	1·69	1·51	0·91	0·70	0·50	11·34
Hay River	0·62	0·55	0·50	0·57	0·83	1·16	1·35	1·73	1·56	0·90	0·78	0·76	11·31
ALBERTA.													
North Saskatchewan River.													
Calmar	0·71	0·83	0·86	1·17	2·33	3·17	3·31	2·31	1·85	0·93	0·44	0·61	18·52
Campsie	1·22	0·56	0·55	0·68	1·59	3·86	3·65	1·84	1·68	0·68	0·73	0·77	17·81
Edmonton	0·76	0·67	0·67	0·80	1·86	3·26	3·56	2·47	1·40	0·74	0·73	0·75	17·67
Elk Point	0·68	0·46	0·59	0·74	1·57	2·58	2·54	2·01	1·27	0·73	0·45	0·37	13·99
Halkirk	0·59	0·47	0·34	0·72	2·11	3·38	2·69	2·50	1·77	0·92	0·43	0·31	16·23
Lloydminster	0·69	0·17	0·49	0·75	1·72	3·18	2·90	2·38	1·07	0·61	0·19	0·34	14·49
Nordegg	0·92	0·81	1·57	1·44	2·06	3·12	2·88	2·82	1·61	1·02	0·56	0·67	19·48
Ranfurly	0·85	0·89	1·00	1·11	2·03	3·26	3·16	2·56	1·38	0·91	0·75	0·79	18·69
Rocky Mountain House	0·64	0·68	1·17	1·91	1·82	2·30	2·71	3·64	1·94	1·26	0·40	0·93	19·40
Sion	1·21	0·75	0·98	1·10	1·62	5·80	3·56	2·49	1·43	0·70	1·09	1·02	21·75
Wastina	–	–	–	–	1·42	2·72	1·96	1·37	1·06	0·92	–	–	–
Wetaskiwin	0·78	0·66	0·97	0·48	1·72	3·92	2·96	2·83	1·41	0·45	0·64	0·65	17·47
Red Deer River.													
Alix	0·87	0·61	0·82	0·91	1·96	2·80	2·66	2·04	1·44	0·80	0·76	0·84	16·51
Hillsdown	0·87	0·57	0·83	0·76	2·11	3·87	2·57	2·32	1·25	0·96	0·85	0·73	17·69
Jenner	0·71	0·58	0·52	0·88	1·59	2·18	1·95	1·45	1·13	0·64	0·28	0·54	12·45
Lacombe	0·73	0·80	0·44	0·45	1·96	4·54	2·72	2·55	1·54	0·78	0·49	0·41	17·41
Olds	0·82	0·81	0·76	1·46	2·28	2·24	2·48	3·34	1·23	0·79	0·62	0·61	17·44
Perbeck	0·53	0·35	0·39	0·70	1·93	2·93	2·90	2·35	1·40	0·65	0·42	0·44	14·99
Red Deer	1·04	0·62	0·61	1·01	2·98	4·50	3·18	2·92	2·21	0·90	0·52	0·83	21·32
Springdale	0·93	0·59	0·73	1·39	2·07	4·06	3·29	2·82	1·99	0·81	0·58	0·78	20·04
Bow River.													
Bassano	0·75	0·57	0·74	1·18	2·56	1·61	2·11	1·68	1·25	0·59	0·49	0·88	14·41
Calgary	0·50	0·56	0·74	0·73	2·41	3·19	2·58	2·65	1·25	0·56	0·75	0·47	16·39
Cardston	1·40	0·70	1·13	1·32	4·10	3·64	1·97	2·43	2·69	1·12	0·89	1·04	22·43
Expanse Coulee	0·60	0·83	0·73	0·81	1·52	1·99	2·03	1·29	1·21	0·74	0·57	0·81	13·13
Foremost	–	–	–	1·52	2·26	2·13	2·04	2·43	1·60	–	–	–	–
Gleichen	0·86	0·83	0·83	0·72	2·04	2·70	1·96	2·04	0·75	0·64	0·35	0·56	14·28
High River	0·76	0·91	1·24	1·56	2·22	2·82	1·81	2·57	1·88	0·82	0·81	0·80	18·20
Lethbridge	0·68	0·54	0·59	1·07	3·48	2·76	1·74	1·85	1·39	0·71	0·61	0·53	15·95
Macleod	0·51	0·54	0·73	0·56	2·11	2·63	1·91	1·48	1·23	0·45	0·61	0·45	13·21
Medicine Hat	0·56	0·58	0·61	0·61	1·78	2·57	1·80	1·52	1·00	0·51	0·72	0·49	12·75
Pekisko	1·06	0·92	1·22	2·02	4·23	4·72	2·11	3·04	2·24	1·45	1·48	0·65	25·14
Pincher Creek	0·71	0·96	0·92	1·49	3·62	3·05	2·80	1·85	1·84	1·09	0·87	0·32	19·52
Raymond	0·62	0·71	0·93	1·69	2·03	3·65	2·23	1·04	1·88	0·79	0·85	0·91	17·33
Strathmore	0·45	0·51	0·47	0·93	1·93	2·47	1·94	2·40	1·33	0·75	0·54	0·50	14·22

10.—Normal Monthly and Total Precipitation in Inches—continued.

NOTE.—In these figures, 10 inches of snowfall is calculated as equivalent to 1 inch of precipitation.

Station.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
ALBERTA—*concluded.*													
Rocky Mountains.													
Banff	1·40	0·89	1·18	1·09	2·04	2·87	2·17	2·31	1·73	1·09	1·45	1·20	19·42
Lake Louise	2·70	1·56	1·72	1·09	1·17	2·33	1·67	1·84	2·09	1·61	1·84	2·81	22·43
Athabaska River.													
Athabaska	1·04	0·60	0·81	0·74	2·29	2·58	2·81	2·70	1·32	0·74	0·79	0·59	17·01
Edson	0·98	0·57	0·92	1·05	1·37	2·02	3·08	3·85	1·88	1·04	0·57	0·86	18·19
Fort Chipewyan	0·68	0·54	0·68	0·69	0·83	1·36	2·31	1·63	1·22	0·91	0·94	0·80	12·59
Fort McMurray	1·44	0·58	0·92	0·44	1·55	2·02	2·89	2·00	2·16	1·17	0·82	1·02	17·01
Grouard	1·02	0·36	0·79	0·74	1·19	2·79	3·16	1·77	1·29	0·74	0·64	0·67	15·16
Jasper	1·30	0·50	0·62	0·79	1·03	1·06	1·23	1·57	1·09	1·09	0·62	1·10	12·00
Wabasca	1·08	0·65	0·80	0·61	2·02	2·28	2·94	2·30	1·37	0·86	0·59	0·70	16·20
Peace River.													
Beaver Lodge	1·47	0·80	1·19	0·47	1·72	1·66	2·02	1·69	1·17	0·96	0·73	1·07	14·95
Dunvegan	0·99	0·67	0·98	0·47	1·22	2·24	1·55	1·80	1·01	0·75	0·76	1·03	13·47
Fort Vermilion	0·60	0·33	0·49	0·71	1·03	1·86	2·14	2·05	1·39	0·74	0·52	0·42	12·28
Peace River Crossing	0·86	0·43	0·46	0·34	1·35	2·47	2·02	1·87	1·03	0·46	0·45	0·62	12·36
SASKATCHEWAN.													
Qu'Appelle River.													
Estevan	0·66	0·57	1·17	0·87	2·68	2·15	1·58	2·57	1·35	0·54	0·39	0·78	15·31
Fort Qu'Appelle	0·93	0·53	0·75	0·74	1·73	2·36	2·97	1·76	1·69	1·04	0·45	0·62	15·57
Grenfell	0·81	0·65	0·99	1·19	1·81	3·14	2·49	1·91	1·46	0·91	0·83	0·57	16·76
Hubbard	0·78	0·57	0·74	0·57	1·61	2·86	3·08	1·88	1·01	0·91	0·53	0·82	15·36
Humboldt	0·50	0·36	0·43	0·71	1·21	2·04	2·24	1·44	0·78	0·78	0·55	0·43	11·47
Indian Head	0·36	0·50	0·65	0·88	1·98	3·98	2·46	2·12	1·77	0·84	0·78	0·71	17·03
Kamsack	1·11	0·82	1·03	0·47	1·36	2·59	2·72	1·33	1·07	0·65	0·66	0·81	14·62
Moose Jaw	0·64	0·48	0·67	0·76	1·98	3·04	2·12	1·68	1·27	0·81	0·62	0·59	14·66
Qu'Appelle	0·69	0·81	1·02	1·10	2·71	3·69	2·84	2·04	1·38	0·98	0·98	0·72	18·96
Regina	0·37	0·29	0·49	0·73	1·98	3·17	2·49	1·86	1·19	0·70	0·48	0·36	14·11
Whitewood	1·01	0·56	0·92	1·49	1·63	3·63	2·76	1·64	1·94	1·23	0·93	0·60	18·34
Yorkton	0·44	0·70	0·70	0·57	2·49	2·59	2·36	2·04	1·53	0·73	0·31	0·50	14·96
South Saskatchewan River.													
Aneroid	0·68	0·70	0·53	0·88	2·18	4·01	1·95	1·15	1·08	0·97	0·49	0·48	15·10
Assiniboia	–	–	–	0·74	1·31	3·07	1·92	1·16	1·32	0·85	–	–	–
Chaplin	0·90	0·52	0·88	0·98	2·32	3·33	2·37	2·00	0·99	0·86	0·62	0·66	16·43
Klintonel	1·01	0·84	1·09	1·54	2·40	2·84	1·83	1·58	2·03	1·39	0·51	0·84	17·90
Nashlyn	0·59	0·34	0·38	0·52	1·63	1·92	1·35	1·10	1·54	0·66	0·28	0·49	10·80
Shaunavon	–	–	–	–	1·06	2·68	2·19	1·15	1·18	–	–	–	–
Swift Current	0·62	0·65	0·75	0·78	1·91	3·06	2·41	1·81	1·18	0·76	0·57	0·62	15·13
North Saskatchewan River.													
Alsask	0·61	0·38	0·79	1·31	2·11	1·56	1·97	1·60	1·04	0·85	0·95	0·61	13·78
Anglia	0·76	0·40	0·78	0·79	1·45	2·72	2·10	1·68	1·13	0·91	0·45	0·44	13·61
Battleford	0·55	0·39	0·57	0·59	1·68	2·94	2·23	2·06	1·33	0·59	0·46	0·39	13·78
Macklin	–	–	–	–	1·59	2·13	2·33	1·91	1·28	–	–	–	–
St. Walburg	0·93	0·63	0·98	1·01	1·63	2·35	2·51	2·20	1·23	0·83	0·55	0·50	15·35
Scott	0·74	0·39	0·56	0·93	1·28	2·22	2·84	2·13	1·50	0·80	0·27	0·43	14·08
Waseca	0·63	0·27	0·34	0·40	1·48	3·18	2·63	1·76	1·31	0·72	0·27	0·42	13·00
Saskatchewan Forks.													
Prince Albert	0·82	0·69	0·87	0·82	1·50	2·67	2·31	2·31	1·39	0·80	0·99	0·80	15·97
Rosthern	0·96	0·37	0·61	0·75	1·47	2·11	3·10	1·62	1·54	0·60	0·57	0·52	14·22
Saskatoon	0·49	0·42	0·59	0·37	1·59	2·51	2·54	2·17	1·46	0·72	0·50	0·64	14·00
Lake Athabasca.													
Fond du Lac	0·53	0·26	0·27	0·15	0·58	1·22	1·73	2·09	1·38	0·76	0·74	0·55	10·26
Lower Saskatchewan River.													
Lost River	–	–	–	0·51	2·43	3·08	3·18	1·97	1·65	1·10	–	–	–
MANITOBA.													
Qu'Appelle and Assiniboine Rivers.													
Birtle	–	–	–	0·77	1·63	3·48	3·25	2·05	1·46	0·86	0·41	–	–
Brandon	0·96	0·72	0·80	1·07	1·85	3·10	2·50	2·27	1·42	0·84	0·81	0·69	17·03
Hillview	0·84	0·81	1·57	0·96	2·34	3·35	2·29	1·80	2·08	0·62	1·04	1·14	18·84
Minnedosa	0·80	0·61	0·72	1·03	1·93	3·15	2·63	2·12	1·54	0·95	0·97	0·62	17·07
Ninette	1·05	0·63	0·71	1·33	1·55	2·36	1·89	1·91	1·10	1·12	1·40	0·49	15·54
Ninga	–	–	–	–	1·48	1·80	1·98	2·00	1·55	0·46	–	–	–
Pierson	–	–	–	1·40	1·96	2·56	2·54	2·38	1·48	1·16	–	–	–
Portage la Prairie	–	–	–	1·38	1·85	2·80	2·63	2·02	2·44	1·03	–	–	–
Russell	0·63	0·68	0·87	0·98	1·61	3·12	2·40	2·07	1·69	1·07	0·70	0·69	16·51

10.—Normal Monthly and Total Precipitation in Inches—continued.

NOTE.—In these figures, 10 inches of snowfall is calculated as equivalent to 1 inch of precipitation.

Station.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
MANITOBA—*concluded.*													
Qu'Appelle and Assiniboine Rivers—concluded.													
Souris	1·46	0·83	0·79	1·19	1·36	2·75	2·18	1·94	1·16	1·28	0·84	0·80	16·58
Swan Lake	0·67	0·63	0·93	1·53	2·34	3·26	2·89	2·11	1·67	1·50	0·78	0·71	19·02
Treesbank	0·74	0·62	0·96	1·25	1·87	2·97	2·80	2·25	1·67	1·03	0·82	0·62	17·60
Treherne	0·67	0·55	0·86	1·51	1·60	3·28	2·52	1·73	1·39	1·00	0·85	0·74	16·70
Virden	–	–	–	0·76	1·57	2·98	2·06	1·96	1·43	1·09	–	–	–
Red River.													
Almasippi	0·99	0·78	1·03	1·22	2·53	2·94	2·45	2·05	2·13	1·10	0·70	1·09	19·01
Morden	0·77	0·81	1·36	1·54	2·21	3·11	3·06	1·91	2·69	1·42	1·62	0·84	21·34
Morris	0·95	0·83	1·14	1·26	1·54	2·96	2·75	2·41	2·60	1·05	1·34	1·00	19·83
Oakbank	0·83	0·80	1·15	1·64	2·25	3·05	2·67	2·10	2·09	1·35	0·95	0·84	19·72
Sprague	1·02	1·00	1·03	1·34	1·62	2·66	2·73	1·50	2·60	1·22	1·33	0·82	18·87
Winnipeg	0·74	0·79	1·08	1·50	2·23	3·27	3·04	2·38	1·97	1·48	0·96	0·93	20·37
Winnipeg River.													
Berens River	0·77	0·49	0·86	0·77	1·45	1·66	2·60	1·98	2·34	1·28	1·22	0·93	16·35
Pinawa	1·08	1·06	0·95	0·98	1·43	2·84	2·95	2·61	2·78	1·18	1·07	0·85	19·78
Dauphin Lake and River.													
Dauphin	1·03	0·75	0·63	0·43	1·90	2·65	2·99	2·10	2·13	1·10	1·01	1·02	17·74
Moose Horn Bay	1·48	1·00	0·86	0·89	1·77	2·46	2·19	3·09	1·91	1·47	1·19	1·04	19·35
Swan River	–	–	–	0·86	1·59	3·78	3·25	2·23	2·08	0·80	–	–	–
Lower Saskatchewan River.													
The Pas	0·69	0·55	0·47	0·83	1·55	2·22	2·26	2·26	1·58	1·20	0·97	0·48	15·06
Nelson River.													
Norway House	0·69	0·73	1·03	0·72	1·31	2·23	2·45	2·63	2·76	0·84	1·12	0·82	17·33
Port Nelson	0·60	0·46	0·58	0·88	0·85	2·07	1·64	2·08	1·79	0·96	1·04	0·81	13·76
Churchill River.													
Churchill	0·62	0·98	1·11	0·99	0·97	1·98	1·79	2·51	2·60	1·27	1·16	0·86	16·84
ONTARIO.													
Rainy River.													
Atikokan	1·06	0·88	1·28	1·45	1·56	3·27	3·48	2·54	2·94	2·01	1·50	1·29	23·26
Fort Frances	0·88	1·02	1·16	1·77	2·44	3·24	3·50	3·34	2·76	2·10	1·17	1·03	24·41
Mine Centre	1·33	1·15	1·28	1·96	2·36	4·04	3·85	3·82	2·80	1·30	1·29	1·48	26·66
Kenora.													
Dryden	1·02	1·06	1·32	1·42	1·92	2·62	3·91	3·24	3·22	2·33	1·05	1·15	24·26
Fort Hope	0·93	0·58	0·78	0·22	0·91	1·79	2·05	1·95	2·01	1·07	1·19	0·80	14·28
Ignace	1·99	1·47	1·57	1·54	2·41	3·87	4·57	3·73	3·97	2·70	2·01	2·13	31·96
Kenora	1·02	0·83	1·10	1·34	2·68	3·23	4·86	3·50	3·14	2·44	1·18	1·12	26·44
Sioux Lookout	1·02	0·87	1·23	1·78	2·00	3·28	3·84	2·71	3·80	1·80	1·52	0·95	24·80
Thunder Bay.													
Kakabeka Falls	1·29	1·37	1·62	1·73	2·14	2·71	3·70	2·88	3·11	2·14	1·63	1·43	25·75
Port Arthur	0·70	0·63	0·88	1·54	2·03	2·75	3·62	2·86	3·14	2·22	1·30	0·86	22·53
Quorn	1·35	1·66	1·47	1·43	1·63	3·10	2·82	2·11	2·69	1·44	0·99	1·04	21·73
Savanne	1·48	1·46	1·33	1·52	1·98	3·02	3·63	3·16	3·10	2·32	1·32	1·27	25·59
Schreiber	2·38	2·05	2·16	1·71	1·87	2·69	2·81	3·03	3·28	2·77	2·53	2·18	29·46
Algoma.													
Franz	1·36	1·09	1·75	1·82	1·90	2·36	4·33	2·22	3·66	2·44	2·93	1·92	27·78
Hornepayne	1·50	1·45	1·00	1·45	1·74	2·78	2·73	2·69	2·30	2·04	1·51	1·87	23·06
Pagwa	1·38	1·65	1·83	1·71	2·12	3·50	2·90	3·35	3·02	2·88	2·01	1·90	28·25
Steep Hills Falls	3·54	2·47	2·66	2·02	2·64	2·78	3·33	3·46	4·47	1·42	3·15	3·95	35·89
White River	1·69	1·45	1·57	1·56	2·23	2·38	2·81	2·96	2·93	2·43	2·37	1·87	26·25
Sudbury.													
Biscotasing	1·54	1·61	1·80	2·21	1·66	2·37	2·59	2·52	3·02	2·36	2·11	2·16	25·95
Chapleau	1·71	1·28	1·36	1·65	2·18	3·09	2·96	2·55	3·17	2·60	2·54	1·99	27·08
Ruel	1·62	1·63	1·85	1·97	2·41	2·[illegible]6	3·17	2·71	3·11	2·86	2·49	2·09	28·87
Sudbury	1·59	1·38	1·92	2·69	2·13	2·91	2·54	2·85	3·10	2·97	2·44	2·09	28·61
Turbine	2·15	1·29	2·84	2·97	2·44	2·85	2·08	2·80	3·41	3·15	2·69	2·27	30·97
Timiskaming.													
Cochrane	1·55	0·91	1·01	1·78	2·33	2·33	3·73	3·52	3·31	2·24	1·78	1·45	25·94
Haileybury	2·09	1·97	2·19	1·78	2·91	2·90	3·85	2·94	3·37	3·05	2·42	2·34	31·81
Iroquois Falls	2·02	1·59	3·52	1·97	2·22	2·75	3·89	3·25	3·51	2·63	2·74	2·42	32·51
Kapuskasing	1·28	0·81	0·86	1·73	1·98	2·30	3·26	2·62	3·55	2·16	2·09	1·93	24·57
Moose Factory	1·14	0·59	1·40	0·85	2·25	2·61	2·60	3·15	3·21	1·81	1·89	1·52	23·02
Wawaitin Falls	2·58	1·95	2·63	2·41	2·41	2·62	3·48	2·63	3·34	2·71	3·26	2·99	33·01

10.—Normal Monthly and Total Precipitation in Inches—continued.

NOTE.—In these figures, 10 inches of snowfall is calculated as equivalent to 1 inch of precipitation.

Station.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
ONTARIO—*continued.*													
Nipissing.													
Algonquin Park	2·24	2·23	2·69	2·69	2·89	2·57	3·04	2·81	3·48	3·06	3·29	3·12	34·11
Montreal River	2·15	1·82	2·03	2·08	2·31	2·38	3·04	2·49	3·20	3·16	2·99	2·27	29·92
North Bay	2·37	1·47	1·89	2·26	2·72	2·79	2·93	2·52	3·57	3·52	3·00	2·53	31·57
Manitoulin Island.													
Gore Bay	2·39	1·73	2·34	2·06	1·84	2·00	2·09	2·37	2·52	2·38	2·64	3·47	27·83
Providence Bay	4·15	2·70	2·29	1·88	1·78	2·03	2·09	2·00	1·80	2·78	3·22	3·29	30·01
Upper Ottawa River.													
Rutherglen	2·00	1·78	1·80	1·61	2·85	2·58	3·41	3·31	3·33	2·78	2·30	1·89	29·64
Stonecliffe	2·08	1·76	1·75	1·60	2·62	2·97	3·16	2·92	2·99	2·35	2·34	2·18	28·72
Upper St. Lawrence and Lower Ottawa Rivers.													
Belleville	3·51	3·21	3·50	2·36	2·40	2·55	2·20	2·26	3·46	3·09	3·25	3·52	35·61
Bloomfield	2·83	2·13	2·15	2·38	2·60	2·28	2·15	2·13	2·41	2·49	2·46	2·64	28·65
Brockville	1·70	1·63	2·16	2·66	2·54	2·99	2·75	2·68	2·73	3·25	2·51	2·16	29·76
Kingston	2·83	2·21	2·47	2·21	2·92	2·87	2·81	2·71	2·76	2·92	2·82	2·95	32·48
Ottawa	2·97	2·59	2·56	2·13	2·58	3·38	3·34	2·91	2·79	2·73	2·40	2·95	33·33
Pembroke	2·41	1·98	2·26	2·19	3·24	3·23	3·78	3·02	3·98	3·55	3·39	2·65	35·68
Renfrew	1·98	1·63	1·65	1·88	2·52	2·57	2·52	2·52	2·48	2·43	2·47	1·67	26·32
Georgian Bay Counties.													
Barrie	3·17	2·05	2·37	1·81	2·55	2·76	2·67	2·71	2·57	2·68	2·69	2·88	30·91
Beatrice	3·91	3·12	3·04	2·36	3·05	3·09	2·78	3·07	3·57	3·91	4·37	4·47	40·74
Huntsville	2·88	2·09	3·07	1·78	3·12	3·58	2·94	2·98	3·97	3·52	2·77	3·31	36·01
Orillia	2·74	2·27	1·92	1·80	2·63	2·80	2·80	2·60	2·86	3·12	3·47	3·14	32·15
Owen Sound	4·13	3·12	2·53	2·13	2·60	2·56	3·04	2·81	2·92	3·25	3·22	4·20	36·41
Parry Sound	3·98	2·98	2·76	2·25	2·95	2·46	2·66	2·85	3·49	3·91	4·09	4·54	38·92
Tobermory	2·56	1·85	2·65	2·62	2·11	2·54	2·15	2·35	2·26	2·82	3·40	3·91	31·22
Walkerton	4·08	3·05	3·01	2·87	3·25	3·00	2·72	2·70	3·01	3·43	2·69	3·67	37·48
Lake Huron Counties.													
Brucefield	2·98	2·21	2·59	2·88	3·09	2·90	3·44	2·92	3·26	3·62	3·39	2·94	36·22
Goderich	2·52	2·30	2·17	2·18	2·78	3·02	2·95	2·48	2·81	2·68	3·11	2·49	31·49
Lucknow	3·49	2·95	2·61	2·49	3·23	2·77	2·92	2·78	3·26	3·93	3·94	3·98	38·35
Southampton	3·84	2·92	2·66	2·14	2·56	2·44	2·20	2·38	2·83	3·09	3·41	3·79	34·26
Lakes St. Clair and Erie, Niagara Peninsula.													
Chatham	2·18	2·00	2·09	2·19	3·08	2·69	2·73	2·57	2·64	2·38	2·43	2·23	29·21
Grimsby	2·85	2·21	2·30	3·05	3·14	3·05	2·46	3·26	2·62	2·83	2·07	2·11	31·95
Harrow	1·72	1·96	3·06	2·96	2·20	3·15	1·97	2·49	2·82	2·29	1·74	1·90	28·26
Leamington	1·67	1·58	3·01	2·75	2·57	3·42	1·95	1·94	2·75	2·26	1·73	2·30	27·93
Pelee Island	2·12	2·00	2·26	2·70	2·98	2·91	2·57	2·33	2·14	2·11	2·22	2·08	28·42
Port Dover	3·19	2·85	2·92	2·65	2·93	2·81	2·97	3·05	2·61	2·84	2·91	2·97	34·70
Port Stanley	3·12	2·98	2·84	2·55	3·18	2·69	3·35	2·95	2·69	2·91	3·19	2·79	35·24
St. Catharines	1·96	1·64	2·08	2·70	2·26	2·29	2·42	2·86	2·39	2·14	1·50	2·30	26·54
Simcoe	2·87	2·75	3·27	2·53	2·90	2·92	3·13	3·33	3·07	2·78	3·35	2·96	35·86
Welland	2·88	2·68	2·41	2·56	2·73	2·51	3·00	2·40	2·59	2·74	2·40	2·72	31·62
Windsor	2·31	2·21	2·42	2·18	3·09	3·36	3·42	2·75	2·62	2·18	2·43	2·26	31·23
West Central Counties.													
Alton	2·28	2·01	2·14	2·57	3·09	3·05	3·48	3·04	2·78	2·78	2·77	2·28	32·27
Brantford	2·33	1·98	2·03	2·43	3·10	2·74	3·18	3·08	2·43	2·49	2·10	2·25	30·14
Guelph	2·18	1·67	1·57	2·30	2·78	2·80	2·97	2·83	2·33	2·37	2·19	2·15	28·14
Kitchener	2·56	2·50	2·27	3·01	3·17	1·96	2·92	2·49	3·22	2·53	2·27	2·73	31·64
London	3·94	3·44	2·92	2·82	3·26	3·05	3·06	2·84	2·88	2·82	3·43	3·54	38·00
Mount Forest	3·76	2·68	2·55	2·31	2·82	3·09	3·10	2·48	2·96	2·92	3·01	3·38	35·06
Paris	2·76	2·47	2·52	2·62	3·42	3·26	2·85	3·26	2·68	2·87	2·77	2·60	34·08
Stratford	3·11	2·67	2·92	2·58	3·34	3·25	3·31	3·07	3·38	3·38	3·42	3·31	37·74
Woodstock	2·58	2·19	2·29	2·30	3·02	3·11	3·18	2·95	2·84	2·89	2·85	2·61	32·81

10.—Normal Monthly and Total Precipitation in Inches—continued.

NOTE.—In these figures, 10 inches of snowfall is calculated as equivalent to 1 inch of precipitation.

Station.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
ONTARIO—*concluded.*													
Lake Ontario Counties.													
Georgetown	2·68	2·14	2·48	2·43	2·80	2·80	2·96	2·76	2·52	2·67	2·63	2·67	31·54
Hamilton	2·62	2·48	2·71	2·15	2·52	2·82	3·12	2·43	3·01	2·62	2·58	2·47	31·53
Oak Ridges	1·71	1·75	1·71	2·41	2·35	3·20	4·49	2·41	2·47	2·06	2·73	1·65	28·94
Toronto	2·87	2·58	2·65	2·40	2·98	2·76	3·04	2·77	3·18	2·46	2·95	2·83	33·46
East Central Counties.													
Almonte	3·32	1·93	2·72	2·80	2·95	2·54	2·81	3·11	3·11	3·39	2·64	2·37	33·69
Bancroft	3·70	2·86	2·36	1·58	2·82	3·13	2·82	2·08	2·73	2·44	3·30	2·59	32·41
Haliburton	2·29	1·96	2·28	1·94	3·17	3·40	3·75	3·58	3·46	3·02	2·35	2·66	33·86
Lakefield	2·40	2·02	2·10	1·92	2·57	2·50	2·61	2·76	2·43	2·50	2·26	2·06	28·13
Lindsay	3·06	2·72	2·42	2·29	2·97	2·94	3·32	2·90	2·95	2·72	2·82	2·76	33·87
Peterboro	2·55	2·27	2·59	2·12	2·57	2·62	2·91	2·52	2·84	2·59	2·56	2·45	30·59
Queensborough	2·84	2·50	1·84	2·39	2·13	2·61	1·93	2·24	1·94	2·43	1·97	2·55	27·37
QUEBEC.													
Middle St. Lawrence River.													
Bark Lake Depot	2·86	2·10	2·02	2·37	2·45	3·07	3·34	2·87	3·04	3·44	2·37	2·79	32·72
Beauceville	3·10	2·27	1·96	1·78	2·49	3·69	3·99	2·49	2·51	3·21	1·85	2·84	32·18
Berthierville	2·29	2·07	2·11	2·78	2·25	3·09	3·48	2·88	3·33	3·33	3·14	3·05	33·80
Brome	1·82	1·91	2·08	1·77	3·39	4·21	3·80	3·89	3·87	3·49	2·60	2·09	34·92
Cedars	1·52	1·31	2·86	1·97	2·07	2·94	2·82	2·21	2·67	3·11	1·58	2·11	27·17
Drummondville	3·14	2·35	3·54	3·95	3·10	6·22	5·51	4·48	5·15	5·15	3·33	3·49	49·41
Farnham	2·38	2·21	2·61	3·02	2·55	3·82	3·87	4·14	4·64	3·55	4·23	3·05	40·07
Huberdeau	2·85	2·01	1·72	2·60	1·98	3·63	3·20	3·33	4·50	4·50	2·62	1·68	34·62
Joliette	2·64	1·76	2·15	2·74	2·31	3·79	3·51	2·74	3·24	3·62	2·12	2·08	32·70
Lake Megantic	2·99	3·24	2·86	2·80	2·52	4·74	4·20	2·37	3·56	3·97	2·50	2·78	38·53
Maniwaki	1·32	2·11	2·01	1·66	1·80	1·99	2·25	2·58	2·30	3·08	1·98	2·18	25·26
Montreal	3·75	3·17	3·52	2·51	3·03	3·48	3·70	3·46	3·54	3·28	3·47	3·74	40·65
Nicolet	2·69	2·66	2·62	3·02	2·42	4·08	4·07	3·05	3·30	3·91	2·76	3·08	37·66
Nominingue	2·64	2·27	1·84	2·49	1·83	3·02	3·27	2·70	3·48	3·92	2·39	2·30	32·15
Quebec	3·75	3·14	3·22	2·40	3·16	3·94	4·07	3·92	4·01	3·47	3·55	3·43	42·06
St. Lin	2·83	1·97	2·16	2·58	2·60	3·70	2·71	2·87	3·46	3·95	2·24	2·70	33·77
Sherbrooke	3·06	2·60	2·76	2·73	2·79	3·72	3·25	3·30	3·79	3·13	2·83	2·99	36·95
Sorel	2·04	2·05	1·88	3·11	2·50	3·45	3·19	2·78	3·23	3·46	2·31	2·53	32·53
Three Rivers	2·63	2·10	2·17	2·82	3·26	3·69	4·04	3·36	3·53	3·65	4·57	2·89	38·71
Lower St. Lawrence and Gulf.													
Anticosti	2·51	2·31	1·80	1·83	2·47	2·95	3·09	3·53	2·67	3·58	2·90	2·26	31·90
Armagh	3·58	2·47	2·38	2·52	2·20	4·50	3·92	2·77	3·73	3·63	2·74	2·10	36·54
Causapscal	2·86	1·93	2·11	2·09	2·52	2·99	3·13	3·22	2·81	3·44	3·14	2·42	32·66
Clarke City	3·50	2·79	2·80	2·07	3·17	3·55	5·02	3·35	3·69	4·74	4·07	3·85	42·60
Father Point	2·53	2·23	2·46	1·89	3·01	3·55	2·91	3·19	3·08	3·42	2·83	2·85	33·95
Gaspé	2·70	2·38	1·93	3·40	2·70	2·02	2·92	2·62	2·57	3·27	2·66	2·94	32·11
Harrington Harbour	2·99	2·58	2·04	1·28	1·47	1·95	2·37	2·41	1·85	2·39	1·59	2·09	25·01
Natashquan	3·12	2·33	2·70	2·43	2·90	3·22	3·27	3·62	2·73	4·02	2·54	2·60	35·48
Seven Falls	3·89	3·24	3·84	4·01	4·48	4·78	4·32	4·25	5·73	5·10	3·59	3·65	50·88
Tadoussac	2·34	1·65	1·77	1·66	2·44	2·78	1·96	1·61	2·09	2·25	1·58	2·06	24·19
Lake St. John.													
Mistassini	2·36	2·09	1·65	2·18	2·54	3·60	3·74	3·05	2·94	2·76	2·06	2·80	31·77
Roberval	1·55	1·57	1·38	2·22	2·48	3·37	3·59	2·39	2·87	2·57	1·75	2·10	27·84
Upper St. Maurice.													
La Loutre Rapids	2·43	1·77	2·15	2·26	2·18	3·43	4·77	3·50	3·53	3·72	2·24	2·30	34·28
Lake Kempt	2·69	1·96	1·82	2·44	2·20	2·86	3·75	2·73	3·96	3·65	3·08	2·57	33·71
La Tuque	2·38	1·96	1·96	2·01	2·61	2·92	3·62	3·05	3·38	3·33	2·37	2·26	31·85
Manouan	2·43	1·70	1·99	2·97	1·74	1·86	2·93	2·46	2·28	2·39	2·49	2·28	27·52
Northwestern Districts.													
Abitibi	1·76	1·40	2·08	1·22	2·63	2·41	2·62	2·64	2·58	2·91	2·14	1·99	26·38
Amos	2·79	1·15	1·83	2·42	2·33	2·76	3·82	3·82	3·66	2·82	2·82	2·34	32·56
Mistassini Post	1·99	1·68	1·93	1·70	2·44	2·99	3·79	3·83	3·67	3·02	2·87	2·50	32·41

10.—Normal Monthly and Total Precipitation in Inches—concluded.

NOTE.—In these figures, 10 inches of snowfall is calculated as equivalent to 1 inch of precipitation.

Station.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
QUEBEC—*concluded.*													
Northwestern Districts—conc.													
Quinze Dam	2·27	1·87	2·13	2·34	2·43	2·99	4·34	3·73	3·89	4·01	2·89	2·49	35·38
Spirit Lake	1·84	1·43	2·23	2·21	2·23	2·88	4·04	3·94	3·55	2·91	2·15	2·98	32·39
Ville Marie	1·91	2·06	1·79	2·20	1·80	2·66	2·63	2·93	3·45	3·31	2·44	1·97	29·15
NEW BRUNSWICK													
Bathurst	3·08	2·78	2·62	1·57	2·44	2·48	3·60	3·64	2·54	3·20	2·31	3·28	33·54
Chatham	3·52	2·84	3·41	2·98	3·25	3·45	4·04	4·05	3·06	3·86	3·55	3·28	41·29
Chipman	3·15	3·35	2·23	3·09	1·69	2·14	2·66	3·89	2·85	4·39	3·67	3·14	36·25
Dalhousie	3·04	2·60	2·65	1·84	2·43	2·94	3·40	3·39	2·77	3·04	2·92	2·65	33·67
Edmundston	2·67	2·23	1·82	2·38	3·03	3·48	4·30	2·96	3·52	2·30	3·29	2·20	34·18
Fredericton	3·90	3·24	3·64	2·84	3·06	3·74	3·52	3·91	3·58	4·03	3·92	3·40	42·78
Grand Falls	2·91	2·59	2·35	3·20	2·48	3·90	4·07	2·63	2·75	3·03	2·45	2·24	34·60
Grand Manan	4·95	3·81	4·98	3·28	4·05	3·02	2·66	3·64	3·35	4·56	5·40	4·40	48·12
Hardwood Ridge	3·32	2·91	3·35	3·95	2·73	3·13	3·03	4·46	3·22	4·96	3·62	3·85	42·53
Harvey	3·54	2·64	2·68	2·78	3·05	3·03	2·85	4·00	3·54	4·86	3·44	3·43	39·84
McAdam	3·83	3·07	3·06	3·13	2·55	2·98	3·25	4·10	3·93	4·55	4·13	3·07	41·65
Moncton	2·41	2·78	2·21	2·53	2·38	2·81	2·98	3·67	2·89	3·27	3·26	2·61	33·80
Plaster Rock	3·34	1·64	2·46	2·53	2·42	3·36	3·54	2·17	3·41	3·56	3·74	3·04	35·21
St. Andrews	4·30	3·87	4·02	2·24	3·14	2·94	3·25	3·10	2·54	3·62	3·28	3·81	40·11
Saint John	4·38	3·68	4·34	3·25	3·60	3·24	3·41	3·76	3·56	4·09	4·50	4·21	46·02
St. Stephen	4·10	2·91	3·93	3·56	2·27	3·25	2·01	2·36	3·16	3·98	3·36	3·86	38·75
Sussex	4·29	3·59	4·27	3·37	2·78	2·97	2·97	3·00	3·04	3·85	3·83	3·56	41·43
Williamsburg	3·71	3·20	3·01	3·26	2·69	3·53	3·88	2·97	3·24	3·98	3·59	3·80	40·77
Woodstock	3·64	3·06	3·25	2·79	2·68	4·25	4·08	3·19	3·30	3·59	2·66	2·83	39·32
NOVA SCOTIA.													
Annapolis Royal	3·79	3·33	3·86	3·57	2·23	3·06	3·60	3·32	3·10	3·94	4·24	5·30	43·34
Antigonish	3·03	2·94	2·73	3·42	3·67	2·70	3·51	3·27	4·52	5·00	4·57	3·26	42·62
Collegeville	4·13	3·11	3·47	2·86	3·22	3·05	3·58	4·29	3·19	4·59	3·68	4·33	43·50
Glace Bay	5·24	4·58	5·14	4·56	4·06	3·70	4·20	3·94	4·49	4·54	5·57	5·21	55·23
Halifax	5·59	4·52	5·02	4·50	4·17	3·70	3·90	4·53	3·55	5·25	5·40	5·39	55·52
Kentville	3·15	3·24	2·75	2·98	2·06	2·65	3·10	2·81	3·02	4·65	3·82	3·86	38·09
Liverpool	5·07	5·63	4·59	4·61	4·51	4·25	4·26	4·37	3·24	4·83	5·59	5·79	56·74
Mount Uniacke	4·39	3·37	3·54	3·67	3·46	3·39	3·39	3·64	2·96	4·44	3·80	4·02	44·07
Nappan	2·15	2·71	2·83	2·93	2·17	3·00	2·96	3·35	2·70	4·00	3·50	3·28	35·58
Pictou	4·46	3·44	3·72	3·16	3·04	2·68	2·38	4·35	3·26	4·05	4·12	3·35	42·01
Sable Island	5·07	4·65	4·50	3·49	3·39	3·50	3·60	3·33	3·61	4·89	5·68	5·39	51·10
Sammerville	3·45	3·64	3·45	3·20	1·98	3·51	3·15	3·01	3·70	3·79	3·66	4·34	40·88
Springfield	4·95	3·59	4·11	4·89	3·03	3·07	3·38	3·93	3·01	4·51	3·92	5·00	47·30
Springhill	3·63	2·35	3·22	2·94	2·46	2·89	2·69	4·23	3·88	4·19	3·87	3·58	39·93
Stillwater	4·59	3·94	4·06	4·19	3·72	3·63	4·21	5·22	3·70	5·54	4·67	5·53	53·00
Sydney	5·09	4·23	4·67	3·89	3·31	2·83	3·51	3·69	3·33	4·43	5·23	5·02	49·23
Truro	4·71	3·67	4·06	2·97	3·01	2·89	2·90	3·67	3·02	4·37	4·39	4·40	44·06
Upper Stewiacke	3·89	3·56	3·36	3·17	2·32	2·67	3·11	3·95	3·15	4·16	3·68	3·66	40·68
Windsor	4·05	3·54	3·39	3·40	2·85	2·93	3·34	3·42	2·79	3·90	4·33	3·87	41·81
Wolfville	3·92	3·46	3·74	3·27	2·62	2·48	2·71	3·33	3·27	3·34	3·89	4·03	39·97
Yarmouth	4·78	3·94	4·33	3·75	3·57	2·93	3·47	3·62	3·61	4·12	4·49	4·77	47·38
PRINCE EDWARD ISLAND.													
Charlottetown	3·60	3·13	3·17	2·90	2·69	2·69	3·09	3·26	3·39	4·30	3·78	3·80	39·90
Hamilton	3·03	2·60	3·75	3·27	2·52	2·61	2·9	3·45	3·12	3·12	3·75	2·97	37·12
Kilmahumaig	3·87	2·85	3·17	2·28	3·04	2·78	3·65	3·99	2·71	3·45	3·68	4·72	40·19
Summerside	2·62	3·13	3·40	2·91	2·73	2·92	3·53	3·98	3·37	3·55	3·68	3·75	39·60

11. Normal Snowfall, Monthly and Total Depth in Inches.

NOTE.—This snowfall is included in precipitation, Table 10, at the ratio of 10:1.
T. denotes trace, or amount too small to measure.

Station.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
BRITISH COLUMBIA.													
Vancouver Island.													
Alberni	21·8	12·1	5·8	1·0	T.	–	–	–	–	T.	5·5	9·5	55·7
Clayoquot	8·7	1·9	2·5	–	–	–	–	–	–	–	0·7	1·4	15·2
James Island	4·2	7·2	1·0	T.	–	–	–	–	–	–	0·4	2·2	15·0
Nanaimo	12·2	8·0	1·6	T.	–	–	–	–	–	–	2·6	2·3	26·7
Quatsino	8·6	6·5	6·2	2·9	–	–	–	–	–	0·2	2·4	3·7	30·5
Ucluelet	2·9	2·4	1·0	0·2	–	–	–	–	–	–	0·1	2·1	8·7
Vananda	5·0	6·8	2·7	0·2	–	–	–	–	–	–	1·2	5·4	21·3
Victoria	6·1	5·3	1·1	T.	–	–	–	–	–	T.	1·0	1·3	14·8
South Coast.													
Britannia Beach	10·8	9·4	4·5	T.	–	–	–	–	–	–	1·8	5·0	31·5
Queen Charlotte Islands.													
Massett	13·9	5·8	6·9	1·7	T.	–	–	–	–	T.	2·3	8·1	38·7
North Coast.													
Anyox	68·2	39·1	26·6	3·2	0·1	–	–	–	–	4·5	19·8	63·5	225·0
Bella Coola	18·6	12·0	7·5	1·2	–	–	–	–	–	0·5	6·0	11·7	57·5
Prince Rupert	17·3	8·2	11·0	3·1	0·1	–	–	–	–	T.	1·9	40·2	81·8
Rivers Inlet	11·8	14·1	15·3	4·3	1·0	–	–	–	–	T.	6·9	8·3	61·7
Skeena and Naas Rivers.													
Babine Lake	19·0	8·8	8·3	2·7	0·3	–	–	–	–	5·8	13·5	14·1	72·5
New Hazelton	15·5	7·2	4·3	0·4	T.	–	–	–	–	0·8	6·6	11·3	46·1
Terrace	21·8	11·8	6·0	0·1	–	–	–	–	–	–	4·1	14·8	58·6
Upper Fraser River.													
Barkerville	31·8	24·2	23·4	15·9	5·3	0·9	–	0·1	2·6	11·8	27·2	33·5	176·7
Big Creek	7·2	7·7	4·8	3·1	1·9	–	–	–	0·1	2·2	8·4	10·9	46·3
Cranberry Lake	14·7	9·8	7·8	3·0	T.	–	–	–	–	0·8	6·7	15·3	58·1
Fort St. James	13·2	8·8	9·4	2·2	0·1	–	–	–	0·2	2·5	10·5	12·1	59·0
Prince George.													
Quesnel	12·7	9·0	3·0	0·1	–	–	–	–	–	1·1	6·4	9·0	41·3
Lillooet Lake.													
Pemberton Hatchery	18·6	7·9	1·7	0·1	–	–	–	–	–	0·1	5·1	9·8	43·3
Lower Fraser River.													
Agassiz	16·0	11·2	5·1	0·5	0·1	–	–	–	–	0·1	4·7	7·9	45·6
Chilliwack	15·9	9·2	5·3	0·3	T.	–	–	–	–	0·1	4·5	6·4	41·7
Ladner	6·6	9·0	1·5	0·1	–	–	–	–	–	0·1	1·1	3·6	22·0
New Westminster	13·1	9·8	5·5	0·2	–	–	–	–	–	0·1	4·0	5·1	37·8
Vancouver	12·0	7·9	3·6	0·1	–	–	–	–	–	0·2	2·5	3·8	30·1
Middle Fraser River.													
Hope	30·0	17·6	9·9	1·3	–	–	–	–	–	0·2	7·8	17·2	84·0
Lillooet	8·1	4·7	1·7	T.	–	–	–	–	–	0·1	2·8	6·0	23·4
Nicola, Okanagan and Similkameen Valleys.													
Hedley	6·8	8·1	2·5	1·0	T.	–	–	–	–	0·4	3·2	9·2	31·2
Kelowna	9·4	6·6	3·0	0·2	–	–	–	–	–	0·3	4·7	8·8	33·0
Keremeos	4·3	2·6	1·2	T.	–	–	–	–	–	0·2	1·6	3·3	13·2
Merritt	6·0	4·8	6·2	1·2	–	–	–	–	0·5	1·0	6·6	9·7	36·0
Penticton	5·9	3·2	1·7	T.	–	–	–	–	–	0·1	2·3	5·9	19·2
Princeton	10·9	8·6	4·2	0·4	0·4	–	–	–	–	0·2	6·3	12·4	43·4
Summerland	8·2	7·9	0·6	0·2	–	–	–	–	–	0·8	3·4	8·1	29·2
Vernon	18·3	5·1	3·1	0·2	–	–	–	–	–	0·4	4·7	12·9	44·7
Kettle Valley.													
Grand Forks	14·0	7·5	4·6	0·6	–	–	–	–	–	1·3	5·7	13·3	47·0
Greenwood	17·9	9·7	5·4	1·8	0·1	–	–	–	–	1·7	7·7	15·0	59·3
Rock Creek	12·2	6·4	5·2	0·7	–	–	–	–	–	1·0	5·7	11·2	42·4
West Kootenay.													
Boswell	18·5	14·0	7·8	1·0	–	–	–	–	–	0·5	5·1	14·2	61·1
Crawford Bay	35·2	18·8	14·1	1·6	–	–	–	–	–	1·5	11·5	30·7	113·4
Creston	17·4	11·3	7·8	1·0	T.	–	–	–	–	0·8	8·8	17·4	64·5
Kaslo	26·5	15·3	6·7	T.	0·1	–	–	–	–	0·8	5·8	19·2	74·4
Nelson	23·7	15·7	8·5	0·8	0·1	–	–	–	–	0·7	9·5	19·3	78·3

11.—Normal Snowfall, Monthly and Total Depth in Inches—continued.

NOTE.—This snowfall is included in precipitation, Table **10**, at the ratio of 10:1.
T. denotes trace, or amount too small to measure.

Station.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
BRITISH COLUMBIA—*concluded*													
East Kootenay.													
Cranbrook	16·4	12·8	7·6	1·4	–	–	–	–	–	0·6	7·6	12·7	59·1
Fernie	32·9	18·5	20·9	7·1	2·9	T.	–	–	0·1	2·4	16·0	27·3	128·1
Invermere	8·1	5·8	2·4	0·6	0·1	–	–	–	–	0·5	4·1	8·7	30·3
Newgate	10·5	9·0	3·1	0·6	–	–	–	–	–	0·4	7·1	10·5	41·2
Thompson River.													
Armstrong	17·4	8·0	4·0	0·2	–	–	–	–	–	0·6	5·9	11·1	47·2
Chinook Cove	13·9	8·1	3·6	0·2	–	–	–	–	–	1·2	5·8	11·6	44·4
Kamloops	8·2	5·5	1·5	T.	–	–	–	–	–	0·3	5·3	13·3	34·1
Salmon Arm	24·9	12·3	6·1	1·0	–	–	–	–	–	0·8	9·3	18·5	72·9
Vavenby	14·8	4·6	2·9	0·0	0·1	–	–	–	–	0·8	4·5	9·1	36·8
North Columbia River.													
Glacier	88·6	59·8	58·5	21·3	6·7	–	–	0·1	1·4	17·8	79·0	82·2	415·4
Golden	23·8	9·3	5·9	1·1	–	–	–	–	–	1·6	14·0	16·3	72·0
Revelstoke	46·4	30·9	13·2	0·8	0·1	–	–	–	–	0·6	18·2	36·3	146·5
Peace River.													
Hudson's Hope	15·8	6·3	12·0	1·3	0·7	–	–	–	0·8	6·5	12·4	12·1	67·9
Yukon Boundary.													
Atlin	9·3	7·8	5·0	2·2	0·6	0·1	–	0·1	1·4	6·7	8·5	11·2	52·9
Yukon.													
Carcross	4·8	10·3	4·6	2·3	0·3	–	–	0·2	0·8	5·3	9·4	6·3	44·3
Dawson	8·3	7·8	5·2	3·8	0·7	0·2	–	T.	1·7	8·0	9·9	9·3	54·9
Swede Creek	6·3	6·6	4·6	2·2	0·4	–	–	–	1·4	5·8	6·4	8·2	41·9
Northwest Territories.													
Fort Good Hope	4·7	5·2	5·9	5·4	4·4	0·5	–	0·3	3·9	8·5	7·2	5·2	51·2
Fort McPherson	6·8	4·9	4·6	8·0	2·9	0·4	–	–	3·4	6·9	6·7	7·5	52·1
Fort Norman	3·9	4·8	4·3	4·6	3·0	0·1	–	0·1	1·9	6·8	3·6	3·7	36·8
Fort Resolution	5·8	6·1	5·6	2·9	1·6	0·5	–	–	2·3	6·7	13·0	6·3	50·8
Fort Simpson	6·2	7·3	4·9	6·5	5·0	T.	–	0·1	1·0	10·9	7·3	8·6	57·8
Fort Smith	5·7	5·2	2·9	2·7	2·0	0·2	–	–	0·7	4·7	6·7	5·0	35·8
Hay River	6·2	5·2	4·8	4·3	1·7	T.	–	–	0·8	4·8	7·8	7·6	43·2
ALBERTA.													
North Saskatchewan River.													
Calmar	7·1	8·0	7·7	7·3	5·0	–	–	–	0·8	2·1	4·4	6·0	48·4
Campsie	11·2	5·6	4·9	2·2	2·7	–	–	–	0·2	2·5	5·6	7·7	42·6
Edmonton	7·0	6·7	6·2	3·6	1·3	T.	–	T.	0·7	3·5	6·7	6·8	42·5
Elk Point	6·7	4·6	5·8	4·8	0·9	–	–	T.	0·9	1·6	4·5	3·6	33·4
Halkirk	5·6	4·5	3·4	4·6	3·3	0·5	–	–	1·1	5·2	4·1	3·1	35·4
Lloydminster	6·9	1·7	4·9	1·9	1·2	T.	–	0·1	0·5	1·7	1·2	3·2	23·3
Nordegg	9·2	5·0	15·7	13·0	5·3	1·2	–	–	3·4	6·4	5·6	6·7	71·5
Ranfurly	8·0	8·4	9·1	4·5	1·7	–	–	–	1·0	2·9	6·6	7·5	49·7
Rocky Mountain House	6·4	6·8	11·7	8·9	3·0	0·2	–	–	0·2	5·3	4·0	9·3	55·8
Sion	10·7	6·9	9·1	5·4	0·8	–	–	–	0·4	2·6	10·0	10·2	56·1
Wastina	–	–	–	–	0·8	–	–	–	–	1·3	–	–	–
Wetaskiwin	6·7	5·7	8·0	3·4	0·9	–	–	–	0·3	1·0	5·0	6·6	37·6
Red Deer River.													
Alix	8·4	5·9	7·7	6·1	1·8	0·4	–	–	0·8	2·9	7·3	8·3	49·6
Hillsdown	8·7	5·8	20·0	4·8	1·2	1·4	–	0·3	1·5	5·5	8·9	5·8	51·9
Jenner	6·3	5·3	5·2	2·8	1·5	–	–	–	T.	2·9	2·7	5·4	32·1
Lacombe	7·3	8·0	3·3	1·5	0·3	–	–	–	–	0·8	4·8	4·1	30·1
Olds	8·2	8·1	7·6	9·8	2·8	–	–	–	0·4	4·6	6·2	6·0	53·7
Perbeck	5·3	3·5	3·9	5·7	4·1	–	–	–	T.	2·0	4·2	4·4	33·1
Red Deer	6·8	5·4	7·0	4·0	2·3	0·4	–	0·3	2·0	2·2	4·9	6·7	42·0
Springdale	9·0	5·9	7·0	10·9	6·7	–	–	–	1·5	3·4	5·4	7·8	57·6
Bow River.													
Bassano	7·2	5·6	7·2	5·3	2·7	–	–	–	0·2	1·4	4·6	8·6	42·8
Calgary	4·9	5·5	6·8	4·6	3·7	0·5	–	0·1	2·1	3·3	7·4	4·6	43·5
Cardston	14·0	7·0	11·3	10·2	4·4	–	–	0·1	6·3	5·5	8·9	10·4	78·1
Expanse Coulee	6·0	8·1	7·0	2·9	1·2	–	–	–	T.	3·5	4·7	7·8	41·2
Gleichen	5·8	5·6	4·1	4·1	2·5	0·2	–	–	0·1	2·5	3·3	4·0	32·2
High River	7·6	9·1	12·1	12·0	3·3	0·2	–	–	3·3	3·7	7·9	8·0	67·2
Lethbridge	6·5	5·4	5·8	7·3	4·0	–	–	T.	1·9	2·4	4·3	4·6	42·2
Macleod	5·1	5·3	6·8	3·2	0·9	–	–	0·2	0·9	2·8	5·7	4·5	35·4

11.—Normal Snowfall, Monthly and Total Depth in Inches—continued.

NOTE.—This snowfall is included in precipitation, Table **10**, at the ratio of 10:1.
T. denotes trace, or amount too small to measure.

Station.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
ALBERTA—*concluded.*													
Bow River—concluded.													
Medicine Hat	5·5	5·7	5·1	2·4	0·6	T.	–	–	0·4	1·1	6·0	4·3	31·1
Pekisko	10·3	9·2	11·1	10·7	6·2	0·5	–	T.	5·4	9·6	14·2	6·3	83·5
Pincher Creek	7·9	10·7	11·4	9·2	3·6	T.	–	–	2·8	3·9	9·3	6·4	65·2
Raymond	5·7	6·8	9·0	8·9	0·3	–	–	–	1·3	2·7	7·4	8·9	51·0
Strathmore	4·5	5·1	4·7	5·7	2·6	–	–	–	0·2	3·6	5·2	5·0	36·6
Rocky Mountains.													
Banff	13·6	8·4	10·9	7·8	5·5	1·0	0·1	0·1	2·7	3·9	12·3	10·8	77·1
Lake Louise	27·0	15·3	16·4	7·8	2·7	1·3	–	–	2·4	6·3	17·4	27·4	124·0
Athabaska River.													
Athabaska	10·0	5·9	7·5	3·0	0·8	–	–	–	0·6	3·2	7·3	5·7	44·0
Edson	9·8	5·7	9·1	8·8	3·0	–	–	–	1·7	7·6	5·5	8·5	59·7
Fort Chipewyan	6·8	5·4	6·5	4·4	1·6	0·1	–	–	0·1	4·6	8·8	8·0	46·3
Fort McMurray	14·3	5·0	9·0	2·4	0·8	T.	–	–	0·3	3·5	8·0	10·1	53·4
Grouard	10·2	3·2	7·7	4·0	1·1	–	–	–	0·4	2·2	4·7	6·7	40·2
Jasper	12·6	3·9	5·3	3·3	2·3	–	–	–	0·2	2·1	4·0	9·1	42·8
Wabasca	10·8	6·3	8·0	2·9	1·4	0·1	–	–	0·7	1·9	5·5	7·0	44·6
Peace River.													
Beaver Lodge	14·5	7·5	11·8	3·4	5·2	0·4	–	–	0·8	5·1	5·7	10·7	65·1
Dunvegan	9·5	6·8	8·9	1·5	0·2	–	–	–	–	1·6	5·9	9·7	44·1
Fort Vermilion	6·0	3·3	4·8	3·3	0·9	0·1	–	–	0·5	2·7	4·6	4·2	30·4
Peace River Crossing	11·0	5·2	5·7	3·1	–	–	–	–	0·2	2·4	5·6	6·6	39·8
SASKATCHEWAN.													
Qu'Appelle River.													
Estevan	5·6	4·8	9·7	3·0	1·0	–	–	–	0·4	0·6	5·1	7·1	37·3
Fort Qu'Appelle	9·3	5·3	7·2	1·9	1·0	–	–	–	T.	3·7	4·3	5·6	38·3
Grenfell	8·7	5·8	9·1	9·0	1·3	–	–	–	–	1·0	12·2	6·9	54·0
Hubbard	7·8	5·7	7·0	2·9	1·2	0·2	–	–	–	5·6	4·9	8·2	43·5
Humboldt	5·0	3·6	3·8	2·8	1·6	T.	–	–	0·4	1·2	2·4	4·3	24·9
Indian Head	7·1	6·3	9·6	5·4	1·6	0·2	–	–	1·1	3·6	7·9	7·0	37·3
Kamsack	11·1	8·2	9·4	3·4	1·8	0·4	–	–	–	1·8	6·6	8·1	50·8
Moose Jaw	6·4	4·7	5·4	3·3	1·1	0·2	–	–	0·7	2·2	4·9	5·6	34·5
Qu'Appelle	6·9	8·1	9·6	6·7	3·1	T.	–	–	1·0	4·5	8·4	7·1	55·4
Regina	3·7	2·9	4·2	3·1	0·9	T.	–	–	0·4	1·5	4·1	3·6	24·4
Whitewood	10·1	5·6	9·1	8·0	T.	–	–	–	T.	2·9	7·0	5·8	48·5
South Saskatchewan River.													
Aneroid	6·6	6·7	4·5	3·3	–	–	–	–	1·4	3·2	4·4	4·8	34·9
Assiniboia	–	–	–	3·3	0·9	–	–	–	1·6	3·0	–	–	–
Chaplin	9·0	5·2	7·5	4·8	1·2	0·3	–	–	0·2	2·7	5·6	6·4	42·9
Klintonel	10·0	8·4	10·1	10·9	3·8	0·2	–	–	2·0	7·2	5·1	8·2	65·9
Nashlyn	5·9	3·4	3·4	2·5	1·1	–	–	–	1·0	1·8	2·4	4·9	26·4
Swift Current	6·2	6·4	7·3	3·2	2·0	T.	–	–	1·3	2·1	5·0	6·1	39·6
North Saskatchewan River.													
Alsask	5·9	3·8	4·9	5·0	0·4	–	–	–	0·7	1·0	7·8	5·3	34·8
Anglia	7·6	4·0	7·5	4·3	1·1	–	–	–	0·8	3·2	4·1	4·2	36·8
Battleford	5·5	3·9	5·5	2·9	1·0	–	–	–	0·3	1·4	4·0	3·8	28·3
St. Walburg	9·3	6·3	9·2	4·5	1·5	0·3	–	–	0·5	1·8	5·3	5·0	43·7
Scott	7·4	3·9	5·6	2·3	0·3	–	–	–	–	2·0	2·2	4·3	28·0
Waseca	6·3	2·7	3·4	1·9	0·5	0·1	–	–	0·4	3·9	2·4	4·2	25·8
Saskatchewan Forks.													
Prince Albert	8·2	6·8	7·7	4·4	1·6	–	–	–	0·7	2·3	8·7	8·0	48·4
Rosthern	9·6	3·7	5·9	3·1	1·3	–	–	–	–	1·0	4·7	5·0	34·3
Saskatoon	5·4	4·9	5·7	2·4	1·0	–	–	–	0·3	2·6	2·3	2·8	27·4
Lake Athabaska.													
Fond du Lac	5·3	2·6	2·7	0·9	1·0	–	–	–	0·1	2·7	7·4	5·5	28·2
MANITOBA.													
Qu'Appelle and Assiniboine Rivers.													
Brandon	11·5	9·8	8·8	3·5	0·1	0·6	–	–	1·2	0·9	9·3	7·9	53·6
Hillview	8·4	8·1	10·3	5·0	1·4	–	–	–	1·3	0·6	9·4	11·3	55·8
Minnedosa	8·0	6·1	5·8	5·1	1·0	0·1	–	–	0·4	2·1	8·9	6·2	43·7
Ninette	10·5	6·3	6·8	5·7	0·1	–	–	–	–	5·6	4·4	3·9	43·3

11.—Normal Snowfall, Monthly and Total Depth in Inches—continued.

NOTE.—This snowfall is included in precipitation, Table **10**, at the ratio of 10:1.
T. denotes trace, or amount too small to measure.

Station.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
MANITOBA—*concluded.*													
Qu'Appelle and Assiniboine Rivers—concluded.													
Russell	6·1	6·7	7·7	4·5	0·9	–	–	–	0·7	2·6	6·1	6·8	42·1
Souris	14·6	8·3	7·8	3·7	0·3	–	–	–	0·1	4·7	7·3	8·0	54·8
Swan Lake	6·7	6·2	7·7	6·7	2·1	0·1	–	–	0·2	2·3	7·6	6·6	46·2
Treesbank	7·3	6·2	7·4	6·5	1·5	–	–	–	T.	1·1	7·6	6·0	43·6
Treherne	6·7	5·5	7·2	5·9	1·2	–	–	–	T.	1·9	7·6	7·4	43·4
Red River.													
Almasippi	9·0	7·6	9·7	4·7	1·0	–	–	–	–	2·6	6·7	10·6	51·9
Morden	7·7	8·1	11·8	3·6	0·2	–	–	–	–	2·6	10·1	7·8	51·9
Morris	9·5	8·3	9·9	2·9	T.	–	–	–	–	3·0	6·0	10·0	49·6
Oakbank	8·3	7·8	9·1	5·7	1·1	–	–	–	0·1	1·9	8·5	8·4	50·9
Sprague	10·2	10·0	9·4	2·8	T.	–	–	–	–	5·5	10·0	8·2	56·1
Winnipeg	7·4	7·7	8·4	4·4	0·9	T.	–	–	0·1	2·1	8·1	8·6	47·7
Winnipeg River.													
Berens River	7·7	4·7	7·2	3·3	1·1	T.	–	–	0·7	2·3	11·1	9·3	47·4
Pinawa	10·8	10·6	8·2	2·4	0·3	–	–	–	0·2	2·2	7·5	8·5	50·7
Dauphin Lake and River.													
Dauphin	10·3	7·5	6·3	1·1	0·2	T.	–	–	0·1	1·4	7·2	10·2	44·3
Moose Horn Bay	14·8	10·0	7·6	3·2	–	–	–	–	–	5·4	10·7	10·4	62·1
Lower Saskatchewan River.													
The Pas	6·9	5·5	4·4	4·3	2·2	–	–	–	T.	3·6	8·5	4·8	40·2
Nelson River.													
Norway House	6·9	7·3	9·5	4·9	2·6	T.	T.	–	0·9	2·4	10·1	8·0	52·6
Port Nelson	6·0	4·6	5·8	6·3	3·7	2·1	0·1	–	1·6	5·5	10·4	8·1	54·2
Churchill River.													
Churchill	6·2	9·8	10·8	8·4	2·0	1·2	–	–	2·7	6·9	11·6	8·6	68·2
ONTARIO.													
Rainy River.													
Atikokan	10·6	8·8	11·2	3·7	1·0	–	–	–	–	3·6	8·9	12·9	60·7
Fort Frances	8·8	10·2	7·8	3·5	T.	–	–	–	0·2	3·0	5·7	10·1	49·3
Mine Centre	13·3	11·5	10·8	4·0	1·1	–	–	–	–	6·1	6·4	14·6	67·8
Kenora.													
Dryden	10·5	9·7	10·1	4·3	1·6	–	–	–	–	5·2	7·9	11·1	60·4
Fort Hope	9·3	5·8	7·8	1·9	2·2	0·1	–	–	0·7	3·0	10·6	8·0	49·4
Ignace	19·9	14·7	13·5	10·0	2·2	–	–	–	0·1	10·1	12·3	21·0	103·8
Kenora	10·2	8·2	7·7	3·8	0·8	–	–	–	0·5	4·0	7·8	10·2	53·2
Sioux Lookout	10·2	8·6	10·5	5·0	3·3	–	–	–	1·0	5·5	8·0	9·5	61·6
Thunder Bay.													
Kakabeka Falls	12·7	13·6	12·3	3·2	0·1	–	–	–	T.	1·9	8·2	12·5	64·5
Port Arthur	7·0	5·9	7·4	3·9	0·6	–	–	–	–	0·5	5·5	5·8	36·6
Quorn	13·5	16·6	14·5	7·3	3·3	–	–	–	–	7·0	5·6	9·9	77·7
Savanne	14·8	14·6	12·7	6·8	2·5	–	–	–	0·1	4·9	10·1	12·7	79·2
Schreiber	23·3	19·6	16·6	4·1	1·9	T.	–	–	–	1·6	12·0	15·8	94·9
Algoma.													
Franz	12·8	9·2	11·8	7·8	0·6	–	–	–	0·1	1·4	16·3	14·8	74·8
Hornepayne	15·0	14·5	8·6	7·5	2·0	–	–	–	T.	3·1	12·6	17·5	80·8
Pagwa	13·7	15·3	13·8	9·2	3·8	0·5	–	–	0·7	9·2	12·1	17·0	95·3
Steep Hills Falls	34·1	24·0	18·1	5·4	1·5	–	–	–	–	4·4	15·1	34·4	137·0
White River	16·5	13·0	13·6	7·0	3·2	0·1	–	–	0·6	4·2	14·5	17·6	90·3

11.—Normal Snowfall, Monthly and Total Depth in Inches—continued.

NOTE.—This snowfall is included in precipitation, Table **10**, at the ratio of 10:1.
T. denotes trace, or amount too small to measure.

Station.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
ONTARIO—*continued.*													
Sudbury.													
Biscotasing	13·5	15·1	14·1	6·1	1·8	T.	–	–	0·1	3·9	11·2	17·0	82·8
Chapleau	17·0	12·2	11·4	7·7	2·9	–	–	–	0·1	4·8	14·0	16·6	86·7
Ruel	15·4	15·1	12·2	6·8	2·6	–	–	–	0·2	5·1	12·8	17·1	87·3
Sudbury	12·9	12·9	9·2	6·2	0·1	–	–	–	–	1·1	7·0	13·8	63·2
Turbine	20·1	12·2	14·8	3·8	–	–	–	–	–	0·1	16·7	22·7	90·4
Timiskaming.													
Cochrane	14·9	8·9	6·6	6·1	1·8	0·3	–	T.	0·6	3·6	9·7	12·6	65·1
Haileybury	17·7	17·9	16·1	5·7	1·6	–	–	–	–	3·5	13·9	19·9	96·3
Iroquois Falls	19·3	15·6	15·4	7·1	1·6	T.	–	–	0·1	5·2	16·8	21·1	102·2
Kapuskasing	12·4	7·6	6·6	8·1	3·3	–	–	–	1·5	2·9	14·4	15·2	72·0
Moose Factory	11·1	5·7	12·6	5·2	4·1	–	–	–	0·1	3·7	11·9	13·6	68·0
Wawaitin Falls	24·7	19·3	23·0	9·8	5·5	–	–	–	0·1	7·7	23·1	27·2	140·4
Nipissing.													
Algonquin Park	20·9	20·4	15·2	7·4	0·8	–	–	–	–	3·2	10·5	21·3	99·7
Montreal River	20·6	17·2	12·2	5·4	1·2	–	–	–	0·1	2·4	11·2	17·6	87·9
North Bay	20·6	14·2	11·2	4·0	0·7	–	–	–	–	0·9	7·1	18·4	77·1
Manitoulin Island.													
Gore Bay	22·2	15·8	13·8	3·6	0·1	–	–	–	–	2·4	5·8	19·7	83·4
Providence Bay	39·7	25·3	8·1	4·0	1·0	–	–	–	–	1·8	11·8	26·3	118·0
Upper Ottawa River.													
Rutherglen	17·4	15·9	11·4	3·7	1·8	–	–	–	–	1·7	10·6	15·9	78·4
Stonecliffe	18·9	15·7	11·2	3·6	0·2	–	–	–	–	1·0	11·2	17·9	79·7
Upper St. Lawrence and Lower Ottawa Rivers.													
Belleville	23·0	24·2	20·8	2·6	–	–	–	–	–	1·3	9·8	23·3	105·0
Bloomfield	16·8	15·5	8·1	1·3	T.	–	–	–	–	T.	3·1	11·0	55·8
Brockville	10·6	12·4	9·3	1·6	–	–	–	–	–	0·5	3·0	8·2	45·6
Kingston	17·8	14·3	10·7	3·2	0·2	–	–	–	–	0·3	5·9	14·4	66·8
Ottawa	24·6	21·3	15·2	4·4	0·1	–	–	–	–	0·8	9·1	20·9	96·4
Pembroke	18·8	16·6	14·1	4·1	0·2	–	–	–	–	1·7	8·8	17·7	82·0
Renfrew	16·5	14·9	10·4	4·3	0·3	–	–	–	T.	0·6	7·6	13·6	68·2
Georgian Bay Counties.													
Barrie	26·4	17·7	15·9	3·4	0·4	–	–	–	0·1	1·8	13·0	22·0	100·7
Beatrice	30·7	25·0	15·8	4·1	0·8	–	–	–	–	2·8	17·9	32·7	129·8
Huntsville	21·2	16·7	16·6	3·3	0·5	–	–	–	–	2·1	9·7	19·4	89·5
Orillia	25·1	20·9	13·6	3·6	0·4	–	–	–	–	4·0	14·0	24·8	106·4
Owen Sound	35·4	25·6	14·8	3·8	0·6	–	–	–	T.	1·0	11·5	32·9	125·6
Parry Sound	32·5	23·3	14·6	3·3	0·6	–	–	–	T.	1·3	14·1	32·2	121·9
Tobermory	21·2	12·8	9·1	3·4	0·3	–	–	–	–	–	5·6	19·8	72·2
Walkerton	34·8	24·8	17·2	3·4	1·2	–	–	–	–	1·7	8·4	24·7	116·2
Lake Huron Counties.													
Brucefield	17·0	13·9	9·3	2·2	0·4	–	–	–	–	1·7	8·0	18·2	70·7
Goderich	15·6	13·7	8·2	2·0	–	–	–	–	–	0·7	6·5	13·4	60·1
Lucknow	26·9	21·7	12·5	3·4	0·6	–	–	–	–	2·5	12·9	26·2	106·7
Southampton	30·6	22·5	14·7	3·3	0·6	–	–	–	T.	1·4	11·7	27·2	112·0
Lakes St. Clair and Erie, Niagara Peninsula.													
Chatham	10·7	10·0	7·0	2·0	0·1	–	–	–	–	0·1	1·7	8·9	40·5
Grimsby	7·0	13·0	5·3	0·2	–	–	–	–	–	–	1·4	7·1	34·0
Harrow	9·7	9·6	3·3	2·1	–	–	–	–	–	0·3	1·6	7·1	33·7
Leamington	9·5	6·2	5·1	1·5	–	–	–	–	–	0·2	1·8	6·1	30·4
Pelee Island	10·3	8·4	4·6	0·9	T.	–	–	–	–	0·1	1·4	4·3	30·0
Port Dover	16·5	15·4	11·6	3·6	0·2	–	–	–	–	0·4	5·4	12·0	65·1
Port Stanley	17·5	15·6	10·9	3·5	0·2	–	–	–	–	0·5	5·9	11·4	65·5
St. Catharines	10·7	7·8	4·2	0·9	0·1	–	–	–	–	–	3·1	9·2	36·0
Simcoe	13·9	13·7	11·0	1·9	–	–	–	–	–	0·9	5·4	11·4	58·2
Welland	17·8	18·4	10·9	4·8	0·2	–	–	–	–	0·9	5·2	14·1	72·3
Windsor	12·9	10·9	11·2	1·9	–	–	–	–	–	0·2	3·0	9·3	49·4

11.—Normal Snowfall, Monthly and Total Depth in Inches—continued.

NOTE.—This snowfall is included in precipitation, Table **10**, at the ratio of 10:1.
T. denotes trace, or amount too small to measure.

Station.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
ONTARIO—*concluded.*													
West Central Counties.													
Alton	14·3	14·8	10·3	4·4	0·5	–	–	–	–	0·9	7·5	12·8	65·5
Brantford	13·2	12·3	6·2	1·0	0·1	–	–	–	–	0·1	2·1	8·6	43·6
Guelph	13·8	12·3	7·1	2·0	0·2	–	–	–	–	0·3	4·1	11·0	50·8
Kitchener	16·4	15·7	3·6	2·4	1·0	–	–	–	–	0·2	6·3	15·5	61·1
London	23·8	22·1	11·5	4·0	0·1	–	–	–	T.	0·7	9·8	19·1	91·1
Mount Forest	29·9	20·6	11·8	2·9	0·4	–	–	–	T.	2·5	12·5	22·6	103·2
Paris	13·9	12·2	8·1	1·9	0·1	–	–	–	–	0·1	3·6	9·1	49·0
Stratford	23·0	18·8	13·9	2·9	0·4	–	–	–	–	2·4	11·8	20·0	93·2
Woodstock	15·2	11·8	9·6	2·2	0·2	–	–	–	T.	0·6	6·0	12·3	57·9
Lake Ontario Counties.													
Georgetown	16·1	15·4	9·8	3·0	T.	–	–	–	–	0·7	4·5	13·8	63·3
Hamilton	16·3	15·1	11·9	1·8	–	–	–	–	–	0·3	5·1	11·9	62·4
Oak Ridges	11·6	14·3	4·9	2·5	T.	–	–	–	–	1·8	6·0	6·8	47·9
Toronto	17·3	16·5	11·5	2·5	0·1	–	–	–	–	0·6	4·6	13·0	66·0
East Central Counties.													
Almonte	19·7	15·7	15·9	8·6	–	–	–	–	T.	0·3	10·3	16·4	86·9
Bancroft	27·5	24·4	15·8	4·2	0·5	–	–	–	–	1·1	12·2	16·1	101·8
Haliburton	17·1	15·3	11·0	2·9	0·4	–	–	–	T.	1·0	6·5	16·0	70·2
Lakefield	17·6	17·2	10·8	4·1	0·5	–	–	–	T.	0·6	6·4	11·7	68·9
Lindsay	22·1	21·3	13·1	4·9	0·7	–	–	–	–	1·8	9·8	18·6	92·3
Peterboro	18·5	16·4	13·2	3·2	0·2	–	–	–	–	0·9	7·1	14·6	74·1
Queensborough	19·7	20·3	8·2	2·3	–	–	–	–	–	–	6·5	16·5	73·5
QUEBEC.													
Middle St. Lawrence River.													
Bark Lake Depot	23·0	19·3	12·3	5·7	0·1	–	–	–	–	2·8	13·9	21·9	99·0
Beauceville	26·6	20·1	15·6	3·3	0·4	–	–	–	–	1·2	8·2	18·4	93·8
Berthierville	18·7	18·0	9·3	5·0	–	–	–	–	–	1·4	8·9	11·8	73·1
Brome	16·8	17·2	12·7	3·7	0·2	–	–	–	–	0·4	7·6	14·4	73·0
Cedars	12·5	10·5	10·7	1·1	–	–	–	–	–	0·3	4·0	12·5	51·6
Drummondville	22·5	14·4	13·8	3·0	–	–	–	–	–	0·2	11·0	18·2	83·1
Farnham	15·8	14·8	11·3	4·2	T.	–	–	–	–	1·5	4·8	12·3	64·7
Huberdeau	22·2	15·8	9·3	3·1	–	–	–	–	T.	0·5	8·0	16·3	75·2
Joliette	19·4	14·8	13·6	3·0	–	–	–	–	–	0·6	6·1	14·6	72·1
Lake Megantic	26·0	26·0	22·0	9·5	1·2	–	–	–	–	1·6	15·6	21·1	123·0
Maniwaki	13·2	21·0	15·5	5·4	–	–	–	–	–	1·7	8·3	16·2	81·3
Montreal	28·5	24·4	24·4	5·5	T.	–	–	–	–	0·8	12·3	23·7	119·6
Nicolet	20·0	22·1	16·5	4·9	–	–	–	–	–	0·1	9·5	20·3	93·4
Nominingue	24·0	20·2	13·2	6·7	T.	–	–	–	–	0·6	10·9	19·5	95·1
Quebec	31·6	26·0	20·4	7·0	0·6	–	–	–	–	1·5	14·2	25·4	126·7
St. Lin	21·3	16·3	16·7	1·8	–	–	–	–	–	0·3	9·3	18·0	83·7
Sherbrooke	23·4	19·8	17·0	7·1	0·7	–	–	–	–	0·8	12·6	20·2	101·6
Sorel	15·4	17·2	11·6	2·9	–	–	–	–	–	0·2	7·1	15·1	69·5
Three Rivers	20·6	17·7	8·9	4·2	–	–	–	–	–	0·2	6·9	18·2	76·7
Lower St. Lawrence and Gulf.													
Anticosti	19·4	14·6	12·4	6·0	0·4	T.	–	–	T.	0·4	5·7	15·4	74·3
Armagh	33·3	23·2	20·8	9·3	0·1	–	–	–	–	3·1	10·3	17·5	117·6
Causapscal	24·8	16·4	18·6	10·5	0·3	0·1	–	–	0·2	3·5	10·5	19·4	104·3
Clarke City	29·0	27·9	26·2	8·5	3·4	–	–	–	–	2·4	16·4	32·9	146·7
Father Point	22·8	20·4	17·6	7·1	0·6	–	–	–	T.	1·1	15·8	24·8	110·2
Gaspé	25·3	19·4	11·6	12·3	1·5	–	–	–	–	0·1	8·7	19·9	98·8
Harrington Harbour	–	–	–	–	–	–	–	–	–		–	–	–
Natashquan	24·0	17·7	18·6	7·6	0·2	–	–	–	–	2·4	[illegible]·0	16·7	93·2
Seven Falls	33·6	28·0	23·2	13·5	0·5	–	–	–	–	2·7	17·7	28·0	147·2
Tadoussac	23·0	16·2	15·2	8·1	–	–	–	–	–	1·8	10·8	19·8	94·9
Lake St. John.													
Mistassini	22·0	18·3	10·8	5·1	0·6	–	–	–	–	2·1	11·5	24·0	94·4
Roberval	14·7	14·4	9·8	3·7	0·8	–	–	–	–	2·3	8·8	17·1	71·6

11.—Normal Snowfall, Monthly and Total Depth in Inches—concluded.

NOTE.—This snowfall is included in precipitation, Table **10**, at the ratio of 10:1.
T. denotes trace, or amount too small to measure.

Station.	Jan.	Feb.	Mar.	Apr	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
QUEBEC—*concluded.*													
Upper St. Maurice.													
La Loutre Rapids	21·7	17·7	16·3	6·5	0·3	T.	–	–	0·4	8·2	12·1	20·8	104·0
Lake Kempt	26·9	18·6	14·8	13·1	0·2	–	–	–	T.	4·1	17·5	19·6	114·8
La Tuque	20·3	17·3	13·7	4·8	T.	–	–	–	–	1·8	12·6	16·2	86·7
Manouan	24·3	16·2	16·3	11·8	0·5	–	–	–	–	5·2	16·4	19·4	110·1
Northwestern Districts.													
Abitibi	17·3	14·0	19·3	4·6	2·0	T.	–	T.	T.	2·4	12·5	18·7	90·8
Amos	25·6	11·4	12·7	10·6	3·1	T.	–	–	–	5·7	16·7	19·8	105·6
Mistassini Post	19·3	16·8	16·4	8·6	4·4	–	–	–	0·8	6·9	22·4	22·6	118·2
Quinze Dam	20·7	18·2	13·3	4·9	1·6	–	–	–	T.	3·9	11·8	20·1	94·5
Spirit Lake	18·4	13·8	15·6	9·1	2·9	–	–	–	T.	7·1	13·5	24·8	105·2
Ville Marie	18·1	19·6	13·4	6·2	0·4	–	–	–	0·3	2·5	7·8	15·5	83·8
NEW BRUNSWICK.													
Bathurst	24·8	25·7	19·8	7·4	0·8	–	–	–	0·4	1·5	7·5	23·2	111·1
Chatham	25·6	22·9	19·2	12·3	1·3	–	–	–	–	1·0	11·3	20·8	114·4
Chipman	20·5	30·0	11·1	9·4	–	–	–	–	–	1·0	11·6	22·9	106·5
Dalhousie	28·0	25·3	21·3	8·5	0·7	–	–	–	–	1·0	11·1	20·8	116·7
Edmundston	23·5	18·2	14·4	9·3	0·5	–	–	–	0·1	1·7	9·8	18·5	96·0
Fredericton	23·8	23·1	16·6	6·9	0·1	–	–	–	–	0·5	8·3	18·5	97·8
Grand Falls	21·3	23·5	16·1	10·6	0·1	–	–	–	–	1·1	11·2	17·5	101·4
Grand Manan	16·3	19·2	13·8	5·2	–	–	–	–	–	0·4	3·6	12·2	70·7
Hardwood Ridge	21·3	21·8	15·1	9·1	0·7	–	–	–	–	1·0	8·8	21·3	99·1
Harvey	22·8	20·6	16·8	7·0	0·8	–	–	–	–	2·9	8·2	22·1	101·2
McAdam	26·7	25·2	12·4	5·4	–	–	–	–	–	1·1	7·0	19·3	97·1
Moncton	12·1	13·8	10·7	6·9	0·6	–	–	–	–	0·3	4·0	11·8	60·2
Plaster Rock	23·1	14·5	15·7	9·1	0·2	–	–	–	–	3·5	10·9	19·8	96·8
St. Andrews	25·7	24·2	19·4	6·8	0·2	–	–	–	–	0·1	4·2	15·4	96·0
Saint John	20·0	20·2	14·6	6·6	0·3	–	–	–	–	0·3	6·1	14·1	82·2
St. Stephen	17·0	17·4	12·6	5·6	–	–	–	–	–	0·4	3·2	6·8	63·0
Sussex	17·3	21·7	11·1	5·2	0·7	–	–	–	–	0·4	6·5	14·6	77·5
Williamsburg	29·5	26·3	17·2	6·4	2·0	–	–	–	0·1	0·4	14·1	22·3	118·3
Woodstock	23·9	24·0	19·4	7·1	0·6	–	–	–	–	1·3	6·6	17·0	99·9
NOVA SCOTIA.													
Annapolis Royal	18·2	18·2	11·0	3·9	–	–	–	–	–	0·2	4·4	23·4	79·3
Antigonish	15·3	16·4	7·6	5·9	–	–	–	–	–	0·9	5·7	14·4	66·2
Collegeville	16·4	15·0	12·8	6·9	0·4	–	–	–	–	0·3	5·7	18·3	75·8
Glace Bay	22·2	18·9	18·5	11·2	0·9	–	–	–	–	0·8	5·2	16·0	93·7
Halifax	20·4	20·2	13·0	5·8	0·6	–	–	–	–	0·2	3·0	13.9	77·1
Kentville	15·4	18·2	11·7	4·1	0·5	–	–	–	–	0·1	6·9	18·5	75·4
Liverpool	12·8	19·0	14·2	3·2	0·6	–	–	–	–	T.	2·6	10·0	62·4
Mount Uniacke	16·0	17·3	9·0	3·8	0·3	–	–	–	–	0·5	4·3	14·4	65·6
Nappan	9·6	16·6	8·6	7·2	T.	–	–	–	–	T.	6·2	10·0	58·2
Pictou	19·4	19·6	15·0	8·2	1·2	–	–	–	–	0·1	3·7	14·0	81·2
Sable Island	12·2	11·4	10·7	2·5	0·3	–	–	–	–	–	0·8	8·4	46·3
Saulnierville	14·5	15·2	7·8	4·1	–	–	–	–	T.	0·4	2·1	13·0	57·1
Springfield	20·4	19·1	12·3	9·3	0·4	–	–	–	–	0·3	5·2	17·1	84·1
Springhill	15·2	15·2	9·0	6·5	0·2	–	–	–	–	0·1	6·3	16·6	69·1
Stillwater	14·4	13·0	10·1	5·9	0·3	–	–	–	–	0·1	4·1	15·8	63·7
Sydney	23·6	23·2	17·7	8·8	0·5	–	–	–	–	0·1	5·0	17·1	96·0
Truro	22·4	22·0	14·4	7·5	0·5	–	–	–	–	0·4	5·7	16·2	89·1
Upper Stewiacke	16·6	16·5	10·4	4·4	–	–	–	–	–	0·3	4·4	13·6	66·2
Windsor	17·9	18·0	10·2	6·7	0·2	–	–	–	–	0·5	5·0	11·4	69·9
Wolfville	17·1	22·5	11·4	4·9	0·6	–	–	–	–	T.	3·3	17·8	77·6
Yarmouth	19·6	20·0	12·8	6·7	0·2	–	–	–	–	0·1	2·6	13·3	75·3
PRINCE EDWARD ISLAND.													
Charlottetown	22·8	19·9	15·1	9·8	0·9	–	–	–	–	0·4	7·6	19·1	95·6
Hamilton	13·4	17·1	15·0	9·4	0·8	–	–	–	–	–	3·5	12·3	71·5
Kilmahumaig	28·3	20·9	13·7	7·0	1·0	–	–	–	–	–	5·4	18·0	94·3
Summerside	10·4	17·7	8·4	6·0	1·2	–	–	–	–	1·4	6·8	18·6	70·5

12.—Normal Monthly and Total Duration of Bright Sunshine in Hours.

Station.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
BRITISH COLUMBIA.													
Agassiz	47	70	103	122	156	160	218	192	129	98	52	39	1,386
Invermere	63	102	157	195	222	240	303	265	186	136	61	57	1,986
Kamloops	63	100	168	201	245	258	313	271	204	143	74	51	2,091
Nanaimo	45	80	136	182	220	231	297	268	183	116	50	32	1,840
Nelson	40	74	124	178	236	220	292	243	183	100	40	36	1,766
Salmon Arm	43	78	141	182	228	248	292	273	186	119	54	36	1,880
Sidney	59	82	132	182	254	262	325	290	177	119	67	52	2,001
Summerland	52	90	149	190	240	258	326	266	209	150	59	42	2,031
Tranquille	68	86	172	206	236	249	289	274	209	126	78	48	2,041
Vancouver	46	76	138	178	228	230	282	250	179	111	55	40	1,813
Victoria	57	84	150	189	226	242	308	271	194	125	65	46	1,957
YUKON.													
Swede Creek	6	64	154	216	237	273	264	202	114	70	13	0	1,613
ALBERTA.													
Dunvegan	38	84	122	185	218	236	236	222	147	112	47	32	1,679
Edmonton	74	114	168	219	245	259	296	257	188	152	98	75	2,145
Fort Vermilion	68	114	172	218	268	270	293	261	184	132	67	62	2,108
Lacombe	89	125	162	213	225	249	287	268	194	142	107	88	2,149
Lethbridge	101	121	172	212	241	283	340	301	210	164	122	102	2,369
Medicine Hat	91	113	161	217	255	284	335	290	197	163	113	84	2,303
Ranfurly	95	125	161	219	277	283	317	264	188	149	101	84	2,265
Vermilion	77	129	172	200	238	264	307	247	184	140	102	82	2,142
SASKATCHEWAN.													
Indian Head	69	97	133	173	215	216	274	235	161	127	68	54	1.822
Moose Jaw	96	125	161	211	263	280	327	290	202	157	108	91	2,311
Qu'Appelle	108	134	180	213	271	281	321	294	214	159	109	91	2,375
Rosthern	96	132	171	226	269	286	311	272	194	147	103	82	2,289
Scott	87	115	166	210	258	270	286	261	178	144	104	78	2,155
Swift Current	94	121	196	203	260	276	321	292	195	150	115	86	2,309
MANITOBA.													
Brandon	105	126	156	190	228	213	271	249	175	138	92	83	2,026
The Pas	78	127	171	219	244	236	291	247	169	107	70	72	2,031
Morden	112	119	147	207	240	242	278	259	184	146	92	103	2,129
Winnipeg	102	132	168	204	251	250	288	259	177	129	85	77	2,122
ONTARIO.													
Barrie	60	87	141	175	208	235	258	223	174	123	57	44	1,785
Gravenhurst	81	126	153	189	217	230	265	253	171	138	85	62	1,970
Guelph	67	80	137	135	196	223	227	211	163	126	69	51	1,685
Haileybury	92	119	165	193	210	259	266	221	174	110	56	61	1,926
Harrow	84	90	126	170	247	276	294	251	177	143	93	62	2,013
Kapuskasing	88	101	144	175	221	244	232	193	144	92	45	53	1,732
Kingston	79	110	147	180	221	250	271	245	182	135	79	67	1.966
Lindsay	73	101	145	177	207	238	253	221	178	129	69	57	1,848
Ottawa	92	117	159	193	224	248	267	245	181	135	81	72	2,014
Toronto	78	108	155	189	226	264	285	254	204	150	84	66	2,062
Vineland	89	100	154	178	242	266	285	257	197	161	89	65	2,083
Woodstock	66	91	127	167	215	252	275	238	178	139	79	56	1,883
QUEBEC.													
Cap Rouge	57	81	139	162	208	210	231	207	150	104	59	51	1,659
Farnham	79	98	131	162	208	219	226	221	165	113	59	55	1,736
La Ferme	92	109	140	163	198	228	232	213	135	83	49	42	1,684
Lennoxville	82	98	146	157	207	206	235	218	162	129	72	53	1,765
Montreal	77	102	149	175	208	222	245	221	174	125	70	61	1,829
Quebec	84	104	149	168	197	208	224	211	159	121	70	70	1,765
Ste Anne de la Pocatière	91	104	149	173	220	216	247	232	173	105	79	73	1,862
Sherbrooke	70	95	145	174	204	233	248	220	162	128	62	48	1,789
NEW BRUNSWICK.													
Fredericton	111	126	153	176	206	219	233	219	176	149	93	95	1,956
Saint John	119	126	154	151	209	198	195	191	172	151	104	100	1,869
NOVA SCOTIA.													
Annapolis Royal	60	85	136	158	208	216	204	199	164	130	78	40	1,678
Kentville	78	95	136	139	198	215	217	212	183	141	82	61	1,757
Nappan	94	102	122	129	182	204	216	213	166	130	82	77	1,717
Wolfville	89	108	136	151	208	226	233	233	186	156	97	65	1,888
PRINCE EDWARD ISLAND.													
Charlottetown	97	118	136	139	220	217	223	233	185	136	73	56	1,832

CHAPTER II.—HISTORY AND CHRONOLOGY.

PART I.—HISTORY.

In the 1922-23 edition of the Canada Year Book, pp. 60-80, will be found an outline of the history of Canada, not reprinted here for lack of space.

A select bibliography of historical works relating to Canada was contributed by the late Adam Shortt, C.M.G., LL.D., F.R.S.C., Chairman of the Historical Documents Publication Board, Ottawa, to the 1925 edition of the Canada Year Book, where it appears on pp. 53-55.

PART II.—CHRONOLOGY, 1497 to 1930.

1497. June 24, Eastern coast of North America discovered by John Cabot.
1498. Cabot discovers Hudson strait.
1501. Gaspar Corte Real visits Newfoundland and Labrador.
1524. Verrazano explores the coast of Nova Scotia.
1534. June 21, Landing of Jacques Cartier at Esquimaux bay.
1535. Cartier's second voyage. He ascends the St. Lawrence to Stadacona (Quebec), (Sept. 14) and Hochelaga (Montreal), (Oct. 2).
1541. Cartier's third voyage.
1542-3. De Roberval and his party winter at cape Rouge, and are rescued by Cartier on his fourth voyage.
1557. Sept. 1, Death of Cartier at St. Malo, France.
1592. Straits of Juan de Fuca discovered by de Fuca.
1603. June 22, Champlain's first landing in Canada, at Quebec.
1605. Founding of Port Royal (Annapolis, N.S.).
1608. Champlain's second visit. July 3, Founding of Quebec.
1609. July, Champlain discovers lake Champlain.
1610-11. Hudson explores Hudson bay and James bay.
1611. Brulé ascends the Ottawa river.
1612. Oct. 15, Champlain made Lieutenant-General of new France.
1613. June, Champlain ascends the Ottawa river.
1615. Champlain explores lakes Nipissing, Huron and Ontario (discovered by Brulé and Le Caron).
1616. First schools opened at Three Rivers and Tadoussac.
1620. Population of Quebec, 60 persons.
1621. Code of laws issued and register of births, deaths and marriages opened in Quebec. Nova Scotia granted to Sir William Alexander by King James I.
1622. Lake Superior discovered by Brulé.
1623. First British settlement of Nova Scotia.
1627. New France and Acadia granted to the Company of 100 Associates.
1628. Port Royal taken by Sir David Kirke.
1629. April 24, Treaty of Susa between France and England. July 20, Quebec taken by Sir David Kirke.
1632. Mar. 29, Canada and Acadia restored to France by the Treaty of St. Germain-en-Laye.
1633. May 23, Champlain made first Governor of New France.
1634. July 4, Founding of Three Rivers.
1634-35. Exploration of the Great Lakes by Nicolet.
1635. Dec. 25, Death of Champlain at Quebec.
1638. June 11, First recorded earthquake in Canada.
1640. Discovery of lake Erie by Chaumonot and Brébeuf.
1641. Resident population of New France, 240.
1642. May 17, Founding of Ville-Marie (Montreal).
1646. Exploration of the Saguenay by Dablon.
1647. Lake St. John discovered by de Quen.
1648. Mar. 5, Council of New France created.
1649. Mar. 16-17, Murder of Fathers Brébeuf and Lalemant by Indians.
1654. Aug., Acadia taken by an expedition from New England.
1655. Nov. 3, Acadia restored to France by the Treaty of Westminster.
1659. June 16, François de Laval arrives in Canada as Vicar-Apostolic.
1660. May 21, Dollard des Ormeaux and sixteen companions killed at the Long Sault, Ottawa river.
1663. Company of 100 Associates dissolved. Feb. 5, Severe earthquake. April, Sovereign Council of New France established. Population of New France, 2,500, of whom 800 were in Quebec.

1664. May, Company of the West Indies founded.
1665. Mar. 23, Talon appointed Intendant. First census. Population of New France, 3,215.
1667. July 21, Acadia restored to France by the Treaty of Breda. White population of New France, 3,918.
1668. Mission at Sault Ste. Marie founded by Marquette.
1670. May 13, Charter of the Hudson's Bay Company granted.
1671. Population of Acadia, 441.
1672. Population of New France, 6,705. April 6, Comte de Frontenac, Governor.
1673. June 13, Cataraqui (Kingston) founded.
1674. Oct. 1, Laval becomes first Bishop of Quebec.
1675. Population of New France, 7,832.
1678. Niagara Falls visited by Hennepin.
1679. Ship *Le Griffon* built on Niagara river above the falls by La Salle. Population of New France, 9,400; of Acadia, 515.
1682. Frontenac recalled.
1683. Population of New France, 10,251.
1685. First issue of card money.
1686. Population of New France, 12,373; of Acadia, 885.
1687. Mar. 18, La Salle assassinated.
1689. June 7, Frontenac re-appointed Governor. Aug. 5, Massacre of whites by Indians at Lachine.
1690. May 21, Sir William Phips captures Port Royal, but is repulsed in an attack on Quebec (Oct. 16-21).
1692. Population of New France, 12,431. Oct. 22, Defence of Verchères against Indians by Madeleine de Verchères.
1693. Population of Acadia, 1,009.
1697. Sept. 20, By the Treaty of Ryswick, places taken during the war were mutually restored. D'Iberville defeats the Hudson's Bay Co.'s ships on Hudson bay.
1698. Nov. 28, Death of Frontenac. Population of New France, 15,355.
1701. La Motte Cadillac builds a fort at Detroit.
1703. June 16, Sovereign Council of Canada becomes Superior Council and membership increased from 7 to 12.
1706. Population of New France, 16,417.
1709. British invasion of Canada.
1710. Oct. 13, Port Royal taken by Nicholson.
1711. Sept. 1, Part of Sir H. Walker's fleet, proceeding against Quebec, wrecked off the Seven Islands.
1713. April 11, Treaty of Utrecht; Hudson bay, Acadia and Newfoundland ceded to Great Britain. Aug., Louisbourg founded by the French. Population of New France, 18,119.
1720. Population of New France, 24,234; of Isle St. Jean (P.E.I.), about 100. April 25, Governor and Council of Nova Scotia appointed.
1721. June 19, Burning of about one-half of Montreal.
1727. Population of New France, 30,613.
1728. Population of Isle St. Jean (P.E.I.), 330.
1731. Population of the north of the peninsula of Acadia, 6,000.
1734. Road opened from Quebec to Montreal. Population of New France, 37,716.
1737. Iron smelted on St. Maurice. French population of the north of the Acadia peninsula, 7,598.
1739. Population of New France, 42,701.
1743. De la Vérendrye discovers the Rocky mountains.
1745. June 17, Taking of Louisbourg by Pepperell and Warren.
1748. Oct. 18, Treaty of Aix-la-Chapelle. Louisbourg restored to France in exchange for Madras.
1749. June 21, Founding of Halifax—British immigrants brought to Nova Scotia by Governor Cornwallis, 2,544 persons. Fort Rouillé (Toronto) built.
1750. St. Paul's church, Halifax (oldest Anglican church in Canada), built.
1752. Mar. 25, Issue of the Halifax "Gazette", first paper in Canada. British and German population of Nova Scotia, 4,203.
1754. Population of New France, 55,009.
1755. June 16, Surrender of Fort Beauséjour on the isthmus of Chignecto to the British. Sept. 10, Expulsion of the Acadians from Nova Scotia.
1756. Seven Years' War between Great Britain and France begins.
1758. July 26, Final capture of Louisbourg by the British. Oct. 7, First meeting of the Legislature of Nova Scotia.
1759. July 25, Taking of Fort Niagara by the British. July 26, Beginning of the siege of Quebec. July 31, French victory at Beauport Flats. Sept. 13, Defeat of the French on the Plains of Abraham. Death of Wolfe. Sept. 14, Death of Montcalm. Sept. 18, Surrender of Quebec.
1760. April 28, Victory of the French under Lévis at Ste. Foy. Sept. 8, Surrender of Montreal. Military rule set up in Canada.

1762. British population of Nova Scotia, 8,104. First British settlement in New Brunswick.

1763. Feb. 10, Treaty of Paris, by which Canada and its dependencies are ceded to the British. May, Rising of Indians under Pontiac, who take a number of forts and defeat the British at Bloody Run (July 31). Oct. 7, Civil government proclaimed. Cape Breton and Isle St. Jean annexed to Nova Scotia; Labrador, Anticosti and Magdalen islands to Newfoundland. Nov. 21, General James Murray appointed Governor in Chief. First Canadian post offices established at Montreal, Three Rivers and Quebec.

1764. June 21, First issue of the Quebec "Gazette". Aug. 13, Civil government established.

1765. Publication of the first book printed in Canada, "Catéchisme du Diocèse de Sens". May 18, Montreal nearly destroyed by fire. Population of Canada, 69,810.

1766. July 24, Peace made with Pontiac at Oswego.

1768. Charlottetown, P.E.I., founded. April 11, Great fire at Montreal. April 12, Sir Guy Carleton (Lord Dorchester) Governor in Chief.

1769. Isle St. Jean (Prince Edward Island) separated from Nova Scotia.

1770-72. Hearne's journey to the Coppermine and Slave rivers and Great Slave lake.

1773. Suppression of the order of Jesuits in Canada and escheat of their estates.

1774. June 22, The Quebec Act passed.

1775. May 1, The Quebec Act comes into force. Outbreak of the American Revolution. Montgomery and Arnold invade Canada. Nov. 12, Montgomery takes Montreal; Dec. 31, Is defeated and killed in an attack on Quebec.

1776. The Americans are defeated and driven from Canada by Carleton.

1777. Sept. 18, General Frederick Haldimand Governor in Chief.

1778. Captain Jas. Cook explores Nootka sound and claims the northwest coast of America for Great Britain. June 3, First issue of the Montreal "Gazette".

1783. Sept. 3, Treaty of Versailles, recognizing the independence of the United States. Organization of the Northwest Company at Montreal. Kingston, Ont., and Saint John, N.B., founded by the United Empire Loyalists.

1784. Population of Canada, 113,012. Aug. 16, New Brunswick and (Aug. 26) Cape Breton separated from Nova Scotia.

1785. May 18, Incorporation of Parrtown (Saint John, N.B.).

1786. April 22, Lord Dorchester again Governor in Chief. Oct. 23, Government of New Brunswick moved from Saint John to Fredericton.

1787. C. Inglis appointed Anglican Bishop of Nova Scotia—the first colonial bishopric in the British Empire.

1788. King's College, Windsor, N.S., opened. Sailing packet service established between Great Britain and Halifax.

1789. Quebec and Halifax Agricultural Societies established.

1790. Spain surrenders her exclusive rights on the Pacific coast. Population of Canada, 161,311. (This census does not include what becomes in the next year Upper Canada).

1791. The Constitutional Act divides the province of Quebec into Upper and Lower Canada, each with a lieutenant-governor and legislature. The Act goes into force Dec. 26. Sept. 12, Colonel J. G. Simcoe, first Lieutenant-Governor of Upper Canada.

1792. Sept. 17, First Legislature of Upper Canada opened at Newark (Niagara). Dec. 17, First Legislature of Lower Canada opened at Quebec. Vancouver island circumnavigated by Vancouver.

1793. April 18, First issue of the "Upper Canada Gazette". June 28, Jacob Mountain appointed first Anglican Bishop of Quebec. July 9, Importation of slaves into Upper Canada forbidden. Rocky mountains crossed by (Sir) Alexander Mackenzie, who reaches the Pacific ocean. York (Toronto) founded by Simcoe.

1794. Nov. 19, Jay's Treaty between Great Britain and the United States.

1795. Pacific coast of Canada finally given up by the Spaniards.

1796. Government of Upper Canada moved from Niagara to York (Toronto).

1798. St. John's island (Isle St. Jean, population 4,500) re-named Prince Edward island.

1800. Founding of New Brunswick College, Fredericton (now University of N.B.). The Rocky mountains crossed by David Thompson.

1803. Settlers sent by Lord Selkirk to Prince Edward Island.

1806. Nov. 22, Issue of "Le Canadien"—first wholly French newspaper. Population—Upper Canada, 70,718; Lower Canada, 250,000; New Brunswick, 35,000; P.E.I., 9,676.

1807. Simon Fraser explores the Fraser river. Estimated population of Nova Scotia, 65,000.

1809. Nov. 4, First Canadian steamer runs from Montreal to Quebec.

1811. Lord Selkirk's Red River settlement founded on land granted by Hudson's Bay Company.

1812. June 18, Declaration of war by the United States. July 12, Americans under Hull cross the Detroit river. Aug. 16, Detroit surrendered by Hull to Brock. Oct. 13, Defeat of the Americans at Queenston Heights and death of Gen. Brock.

1813. Jan. 22, British victory at Frenchtown. April 27, York (Toronto) taken and burned by the Americans. June 5, British victory at Stoney Creek. June 24, British, warned by Laura Secord, capture an American force at Beaver Dams. Sept. 10, Commodore Perry destroys the British flotilla on lake Erie. Oct 5, Americans under Harrison defeat the British at Moraviantown. Tecumseh killed. Oct. 26, Victory of French-Canadian troops under de Salaberry at Chateauguay. Nov. 11, Defeat of the Americans at Crysler's Farm. British storm Fort Niagara and burn Buffalo.

1814. Mar. 30, Americans repulsed at La Colle, May 6, Capture of Oswego by the British. July 5, American victory at Chippawa. July 25, British victory at Lundy's Lane. July, British from Nova Scotia invade and occupy northern Maine. Sept. 11, British defeat at Plattsburg on lake Champlain. Dec. 24, Treaty of Ghent ends the war. Population — Upper Canada, 95,000; Lower Canada, 335,000.

1815. July 3, Treaty of London regulates trade with the United States. The Red River settlement destroyed by the Northwest Company but restored by Governor Semple.

1816. June 19, Governor Semple killed. The Red River settlement again destroyed.

1817. July 18, First treaty with the Northwest Indians. Lord Selkirk restores the Red River settlement. Opening of the Bank of Montreal; first note issued Oct. 1. Population of Nova Scotia, 81,351.

1818. Oct. 20, Convention at London regulating North American fisheries. Dalhousie College, Halifax, founded. Bank of Quebec founded.

1819-22. Franklin's overland Arctic expedition.

1820. Oct. 16, Cape Breton re-annexed to Nova Scotia.

1821. Mar. 26, The Northwest Company absorbed by the Hudson's Bay Company. Charter given to McGill College.

1822. Population of Lower Canada, 427,465.

1824. Population of Upper Canada, 150.066; of New Brunswick, 74,176.

1825. Oct. 6, Great fire in the Miramichi district, N.B. Open-of the Lachine canal. Population of Lower Canada, 479,288.

1826. Founding of Bytown (Ottawa).

1827. Sept. 29, Convention of London relating to the territory west of the Rocky mountains. Population of Nova Scotia, including Cape Breton, 123,630.

1828. The Methodist Church of Upper Canada separated from that of the United States.

1829. Nov. 27, First Welland canal opened. McGill University opened. Upper Canada College founded.

1831. June 1, The North Magnetic Pole discovered by (Sir) James Ross. Population—Upper Canada, 236,702; Lower Canada, 553,131; Assiniboia, 2,390.

1832. Outbreak of cholera in Canada. Incorporation of Quebec and Montreal. Bank of Nova Scotia founded. May 30, Opening of the Rideau canal.

1833. Aug. 18, The steamer *Royal William,* built at Quebec, crosses the Atlantic from Pictou to England.

1834. Feb. 21, The Ninety-two Resolutions on public grievances passed by the Assembly of Lower Canada. Mar. 6, Incorporation of Toronto. Population of Upper Canada, 321,145; of New Brunswick, 119,457; of Assiniboia, 3,356.

1836. July 21, Opening of the first railway in Canada from Laprairie to St. John's, Que. Victoria University opened at Cobourg (afterwards moved to Toronto).

1837. Report of the Canada Commissioners. Rebellion in Lower Canada (Papineau) and Upper Canada (W. L. Mackenzie). Nov. 23, Gas lighting first used in Montreal.

1838. Feb. 10, Constitution of Lower Canada suspended and Special Council created. Mar. 30, The Earl of Durham Governor in Chief. April 27, Martial law revoked. June 28, Amnesty to political prisoners proclaimed. Nov. 1, Lord Durham, censured by British Parliament, resigns. Population — Upper Canada, 339,442; Assiniboia, 3,966; Nova Scotia, 202,575.

1839. Feb. 11, Lord Durham's report submitted to Parliament. John Strachan made first Anglican Bishop of Toronto.

1840. July 23, Passing of the Act of Union. First ship of the Cunard line arrives at Halifax. July 28, Death of Lord Durham.

1841. Feb. 10, Union of the two provinces as the province of Canada, with Kingston as capital. Feb. 13, Draper-Ogden administration. April 10, Halifax incorporated. June 13, Meeting of the first United Parliament. Sept. 19, Death of Lord Sydenham. Population of Upper Canada, 455,668; of P.E.I., 47,042.

1842. Mar. 10, Opening of Queen's University, Kingston. Aug. 9, The Ashburton Treaty. Sept. 16, Baldwin-Lafontaine administration.

1843. June 4, Victoria, B.C., founded. Dec. 12, Draper-Viger administration. King's (now University) College, Toronto, opened.

1844. May 10, Capital moved from Kingston to Montreal. Knox College, Toronto, founded. Population of Lower Canada, 697,084.

1845. May 28 and June 28, Great fires at Quebec. Franklin starts on his last Arctic expedition.

1846. May 18, Kingston incorporated. June 15, Oregon Boundary Treaty. June 18, Draper-Papineau administration. First telegraph line, operated by the Toronto, Hamilton, Niagara and St. Catharines Telegraph Co., opened.

1847. May 29, Sherwood-Papineau administration. Nov. 25, Montreal-Lachine Railway opened.

1848. Mar. 11, Lafontaine-Baldwin administration. May 30, Fredericton incorporated. Responsible government granted to Nova Scotia and New Brunswick.

1849. April 25, Signing of the Rebellion Losses Act; rioting in Montreal and burning of the Parliament buildings. Nov. 14, Toronto made the capital. Vancouver island granted to the Hudson's Bay Company. Population of Assiniboia, 5,391.

1851. April 6, Transfer of the postal system from the British to the Provincial Government; uniform rate of postage introduced. April 23, Postage stamps issued. Aug. 2, Incorporation of Trinity College, Toronto. Sept. 22, Quebec becomes the capital. Oct. 28, Hincks-Morin administration. Responsible government granted to Prince Edward Island. Population—Upper Canada, 952,004; Lower Canada, 890,261; New Brunswick, 193,800; Nova Scotia, 276,854.

1852. July 8, Great fire at Montreal. Dec. 8, Laval University, Quebec, opened. The Grand Trunk Railway chartered.

1854. June 5, Reciprocity Treaty with the United States. Sept. 11, MacNab-Morin Ministry. Seigneurial tenure in Lower Canada abolished. Secularization of the clergy reserves.

1855. Jan. 1, Incorporation of Ottawa. Jan. 27, MacNab-Taché administration. Mar. 9, Opening of the Niagara Railway suspension bridge. April 17, Incorporation of Charlottetown. Oct. 20, Government moved to Toronto.

1856. The Legislative Council of Canada is made elective. First meeting of the Legislature of Vancouver island. May 24, Taché-J. A. Macdonald administration. Oct. 27, Opening of the Grand Trunk Railway from Montreal to Toronto. Population of Assiniboia, 6,691.

1857. Nov. 26, J. A. Macdonald-Cartier administration. Dec. 31, Ottawa chosen by Queen Victoria as future capital of Canada.

1858. Feb., Discovery of gold in Fraser River valley. July 1, Introduction of Canadian decimal currency. Aug. 2, Brown-Dorion administration. Aug. 5, Completion of the Atlantic cable; first message sent. Aug. 6, Cartier-J. A. Macdonald administration. Aug. 20, Colony of British Columbia established. Control of Vancouver island surrendered by the Hudson's Bay Company.

1859. Jan., Canadian silver coinage issued. Sept. 24, Government moved to Quebec.

1860. Aug. 8, The Prince of Wales (King Edward VII) arrives at Quebec. Sept. 1, Laying of the corner stone of the Parliament buildings at Ottawa by the Prince of Wales. Prince of Wales College, Charlottetown, founded.

1861. Aug. 14, Great flood at Montreal. Sept. 10, Meeting of the first Anglican provincial synod. Population — Upper Canada, 1,396,091; Lower Canada, 1,111,566; New Brunswick, 252,047; Nova Scotia, 330,857; Prince Edward Island, 80,857.

1862. May 24, Sandfield Macdonald-Sicotte administration. Aug. 2, Victoria, B.C., incorporated.

1863. May 16, Sandfield Macdonald-Dorion administration.

1864. Mar. 30, Taché-J. A. Macdonald administration. Conferences on confederation of British North America; Sept. 1, at Charlottetown; Oct. 10-29, at Quebec. Oct. 19, Raid of American Confederates from Canada on St. Albans, Vermont.

1865. Feb. 3, The Canadian Legislature resolves on an address to the Queen praying for union of the provinces of British North America. Aug. 7, Belleau-J. A. Macdonald administration. Oct. 20, Proclamation fixing the seat of government at Ottawa.

1866. Mar. 17, Termination of the Reciprocity Treaty by the United States. May 31, Raid of Fenians from the United States into Canada; they are defeated at Ridgeway (June 2) and retreat across the border (June 3). June 8, First meeting at Ottawa of the Canadian Legislature. Nov. 17, Proclamation of the union of Vancouver island with British Columbia.

1867. Mar. 29, Royal assent given to the British North America Act. July 1, The Act comes into force; Union of the provinces of Canada, Nova Scotia and New Brunswick as the Dominion of Canada; Upper and Lower Canada made separate provinces as Ontario and Quebec; Viscount Monck first Governor General, Sir John A. Macdonald Premier. Nov. 6, Meeting of the first Dominion Parliament.

1868. April 7, Murder of D'Arcy McGee at Ottawa. July 31. The Rupert's Land Act authorizes the acquisition by the Dominion of the Northwest Territories.

1869. June 22, Act providing for the government of the Northwest Territories. Nov. 19, Deed of surrender to the Crown of the Hudson's Bay Company's territorial rights in the Northwest. Outbreak of the Red River Rebellion under Riel.

1870. May 12, Act to establish the province of Manitoba. July 15, Northwest Territories transferred to the Dominion and Manitoba admitted into Confederation. Sept. 24, Wolseley's expedition reaches Fort Garry (Winnipeg); end of the rebellion.

1871. April 2, First Dominion census (populations at this and succeeding enumerations given on page 124. April 14, Act establishing uniform currency in the Dominion. May 8, Treaty of Washington, dealing with questions outstanding between the United Kingdom and the United States. July 20, British Columbia enters Confederation.

1873. Mar. 5, Opening of the second Dominion Parliament. May 23, Act establishing the Northwest Mounted Police. July 1, Prince Edward Island enters Confederation. Nov. 7, Alexander Mackenzie becomes Prime Minister. Nov. 8, Incorporation of Winnipeg.

1874. Mar. 26, Opening of the third Dominion Parliament. May, Ontario Agricultural College, Guelph, opened.

1875. April 8, The Northwest Territories Act establishes a Lieutenant-Governor and Council of the Northwest Territories. April-May, Letting of first contract and commencement of work upon the Canadian Pacific Railway as a Government line. Work commenced at Fort William. June 15, Formation of the Presbyterian Church of Canada.

1876. June 1, Opening of the Royal Military College, Kingston. June 5, First sitting of the Supreme Court of Canada. July 3, Opening of the Intercolonial Railway from Quebec to Halifax.

1877. June 20, Great fire at Saint John, N.B. Oct., First exportation of wheat from Manitoba to the United Kingdom. Founding of the University of Manitoba.

1878. July 1, Canada joins the International Postal Union. Oct. 17, Sir John A. Macdonald becomes Prime Minister.

1879. Feb. 13, Opening of the fourth Dominion Parliament. May 15, Adoption of a protective tariff ("The National Policy").

1880. Royal Canadian Academy of Arts founded; first meeting and exhibition, Mar. 6. May 11, Sir A. T. Galt appointed first Canadian High Commissioner in London. Sept. 1, All British possessions in North America and adjacent islands, except Newfoundland and its dependencies, annexed to Canada by Imperial Order in Council of July 31. Oct. 21, Signing of the contract with the present Canadian Pacific Railway Co. for the completion of the Canadian Pacific Railway.

1881. April 4, Second Dominion census. May 2, First sod turned of the Canadian Pacific Railway as a company line.

1882. May 8, Provisional districts of Assiniboia, Saskatchewan, Athabaska and Alberta formed. May 25, First meeting of the Royal Society of Canada. Aug. 23, Regina established as seat of government of Northwest Territories.

1883. Feb. 1, Opening of the fifth Dominion Parliament. Sept. 5, Formation of the Methodist Church in Canada; united conference.

1884. May 24, Sir Charles Tupper High Commissioner in London. Aug. 11, Order in Council settling the boundary of Ontario and Manitoba.

1885. Mar. 26, Outbreak of Riel's second rebellion in the Northwest. April 24, Engagement at Fish Creek. May 2, Engagement at Cut Knife. May 12, Taking of Batoche. May 16, Surrender of Riel. Aug. 24, First census of the Northwest Territories. Nov. 16, Execution of Riel.

1886. April 6, Incorporation of Vancouver. June 7, Archbishop Taschereau of Quebec made first Canadian Cardinal. June 13, Vancouver destroyed by fire. June 28, First through train of the Canadian Pacific Railway from Montreal to Vancouver. July 31, First quinquennial census of Manitoba.

1887. Interprovincial Conference at Quebec. April 4, First Colonial Conference in London. April 13, Opening of the sixth Dominion Parliament.

1888. Feb. 15, Signing of Fishery Treaty between United Kingdom and United States at Washington. Aug., Rejection of Fishery Treaty by United States Senate.

1890. Mar. 31, The Manitoba School Act abolishes separate schools.

1891. April 5, Third Dominion census. April 29, Opening of the seventh Dominion Parliament. June 6, Death of Sir John A. Macdonald. June 15, Sir John Abbott becomes Prime Minister.

1892. Feb. 29, Washington Treaty, providing for arbitration of the Behring Sea Seal Fisheries question. July 22, Boundary convention between Canada and United States. Nov. 25, Sir John Thompson becomes Prime Minister.

1893. April 4, First sitting of the Behring Sea Arbitration Court. Dec. 18, Archbishop Machray, of Rupert's Land, elected first Anglican Primate of all Canada.

1894. June 28, Second Colonial Conference at Ottawa. Dec. 12, Death of Sir John Thompson at Windsor Castle. Dec. 21 (Sir) Mackenzie Bowell becomes Prime Minister.

1895. Sept. 10, Opening of new Sault Ste. Marie canal. Oct. 2, Proclamation naming the Ungava, Franklin, Mackenzie and Yukon districts of Northwest Territories.

1896. April 24, Sir Donald Smith (Lord Strathcona) High Commissioner in London. April 27, Sir Charles Tupper becomes Prime Minister. July 11 (Sir) Wilfrid Laurier becomes Prime Minister. Aug., Gold discovered in the Klondyke. Aug. 19, Opening of the eighth Dominion Parliament.

1897. July, Third Colonial Conference in London. Dec. 17, Award of the Behring Sea Arbitration Court.

1898. June 13, The Yukon district established as a separate territory. Aug. 1, The British Preferential Tariff goes into force. Aug. 23, Meeting at Quebec of the Joint High

Commission between Canada and the United States. Dec. 25, British Imperial penny (2 cent) postage introduced.

1899. Oct. 1, Mgr. Diomède Falconio arrived at Quebec as first permanent Apostolic Delegate to Canada. Oct. 11, Beginning of the South African war. Oct. 29, First Canadian contingent leaves Quebec for South Africa.

1900. Feb. 27, Battle of Paardeberg. April 26, Great fire at Ottawa and Hull.

1901. Jan. 22, Death of Queen Victoria and accession of King Edward VII. Feb. 6, Opening of the ninth Dominion Parliament. April 1, Fourth Dominion census. Sept. 16-Oct. 21, Visit to Canada of the Duke and Duchess of Cornwall and York (King George V and Queen Mary).

1902. May 31, End of South African War; peace signed at Vereeniging. June 30, Meeting of fourth Colonial Conference in London.

1903. Jan. 24, Signing of the Alaskan Boundary Convention. June 19, Incorporation of Regina. Oct. 20, Award of the Alaskan Boundary Commission.

1904. Feb. 1, Dominion Railway Commission established. April 19, Great fire in Toronto. Oct. 8, Incorporation of Edmonton.

1905. Jan. 11, Opening of the tenth Dominion Parliament. Sept. 1, Creation of the provinces of Alberta and Saskatchewan.

1906. University of Alberta founded. Oct. 8, Interprovincial Conference at Ottawa.

1907. April 15-May 14, Fifth Colonial Conference in London. New customs tariff, including introduction of intermediate tariff. Sept. 19, New commercial convention with France signed at Paris. Oct. 17, First message by wireless telegraphy between Canada and the United Kingdom. University of Saskatchewan founded.

1908. Jan. 2, Establishment of Ottawa branch of Royal Mint. June 21-23, Bicentenary of Bishop Laval celebrated at Quebec. July 20-31, Quebec tercentenary celebrations; visit of Prince of Wales to Quebec. Aug. 2, Great fire in Kootenay Valley, B.C. University of British Columbia founded.

1909. Jan. 11, Signing of International Boundary Waters Convention between Canada and United States. Jan. 20, Opening of 11th Dominion Parliament. May 19, Appointment of Canadian Commission of Conservation. July 28, Conference on Imperial defence in London.

1910. May 6, Death of King Edward VII and accession of King George V. June 7, Death of Goldwin Smith. Sept. 7, North Atlantic Coast Fisheries Arbitration award of the Hague Tribunal. New trade agreements made with Germany, Belgium, Holland and Italy.

1911. May 23-June 20, Imperial Conference in London. June 1, Fifth Dominion census. July 11, Disastrous fires in Porcupine district. Sept. 21, General election. Oct. 10, (Sir) R. L. Borden, Prime Minister. Oct. 11, Inauguration at Kitchener of Ontario hydro-electric power transmission system. Nov. 15, Opening of twelfth Dominion Parliament.

1912. April 15, Loss of the steamship *Titanic;* Appointment of Dominions Royal Commission. May 15, Extension of the boundaries of Quebec, Ontario and Manitoba.

1913. April 10, Japanese Treaty Act assented to. June 2, Trade agreement with West Indies came into force.

1914. May 20, Loss of the steamship *Empress of Ireland.* Aug. 4, War with Germany; Aug. 12, with Austria-Hungary; Nov. 5, with Turkey. Aug. 18-22, Special war session of Canadian Parliament. Oct. 16, First Canadian contingent of over 33,000 troops lands at Plymouth, Eng.

1915. Feb., First Canadian contingent lands in France and proceeds to Flanders. April 22, Second battle of Ypres. April 24, Battle of St. Julien. May 20-26, Battle of Festubert. June 15, Battle of Givenchy.

1916. Jan. 12, Order in Council authorizing increase in number of Canadian troops to 500,000. Feb. 3, Destruction of the Houses of Parliament at Ottawa by fire. April 3-20, Battle of St. Eloi. June 1, Census of Prairie Provinces. June 1-3, Battle of Sanctuary Wood. July 1, Commencement of the battle of the Somme. Sept. 1, Cornerstone of new Houses of Parliament laid by Duke of Connaught.

1917. Feb. 12-May 15, Imperial Conference. Mar. 20-May 2, Meetings in London of Imperial War Cabinet. Mar. 21-April 27, Imperial War Conference. April 6, United States declares war against Germany. April 9, Capture of Vimy Ridge. June 21, Appointment of Food Controller. Aug. 15, Battle of Loos, capture of Hill 70. Aug. 29. Passing of Military Service Act. Sept. 20, Completion of Quebec bridge; Parliamentary franchise extended to women. Oct. 26-Nov. 10, Battle of Passchendaele. Dec. 6. Disastrous explosion at Halifax, N.S. Dec. 17, General election and Union Government sustained.

1918. Mar. 18, Opening of first session of thirteenth Parliament. Mar. 31, Germans launch critical offensive on west front. March-April, Second battle of the Somme. April 17, Secret session of Parliament. June-July, Prime Minister and colleagues attend Imperial War Conference in London. July 18, Allies assume successful offensive on west front. Aug. 12, Battle of Amiens. Aug. 26-28, Capture of Monchy le Preux. Sept. 2-4, Breaking of Drocourt-Quéant line. Sept. 16, Austrian peace note. Sept. 27-29, Capture of Bourlon Wood. Sept. 30, Bulgaria surrenders and signs armistice. Oct. 1-9, Capture of Cambrai. Oct., Serious influenza epidemic. Oct. 6, First German peace note. Oct. 20, Capture of Denain. Oct. 25-Nov. 2, Capture of Valenciennes. Oct. 31, Turkey surrenders and signs armistice. Nov. 4, Austria-Hungary surrenders and signs armistice. Nov. 11, Capture of Mons. Germany surrenders and signs armistice.

1919. Feb. 17, Death of Sir Wilfrid Laurier. Feb. 20-July 7, Second session of thirteenth Parliament. May 1-June 15, General strike at Winnipeg and other western cities. June 28, Signing at Versailles of Peace Treaty and Protocol. Aug. 15, Arrival of H.R.H. the Prince of Wales for official tour in Canada. Aug. 22, Formal opening of Quebec bridge by H.R.H. the Prince of Wales. Sept. 1, H.R.H. the Prince of Wales lays foundation stone of tower of new Parliament Buildings at Ottawa. Sept. 1-Nov. 10, Third or special peace session, thirteenth Parliament of Canada. Dec. 20, Organization of "Canadian National Railways" by Order in Council.

1920. Jan. 10, Ratifications of the Treaty of Versailles. Feb. 19, Shareholders ratify agreement for sale of the Grand Trunk Railway to the Dominion Government. Feb. 26-July 1, Fourth session of the thirteenth Parliament of Canada. May 31-June 18, Trade Conference at Ottawa between Dominion and West Indian Governments. July 10, Sir Robert Borden is succeeded by Rt. Hon. Arthur Meighen as Prime Minister. July 16, Ratifications of the Treaty of St. Germain-en-Laye. Aug. 9, Ratifications of the Treaty of Neuilly-sur-Seine. Oct. 20, Prohibition defeated in British Columbia. Oct. 25, Referendum *re* complete prohibition of the liquor traffic is carried in Nova Scotia, Manitoba, Saskatchewan and Alberta. Nov. 15, First meeting of League of Nations Assembly begins at Geneva, Switzerland.

1921. Feb. 14-June 4, Fifth session of thirteenth Parliament of Canada. April 18, Ontario votes for prohibition of the manufacture, importation and sale of alcoholic liquors. May 1, Government control of liquor traffic becomes effective in Quebec. May 10, Preferential tariff arrangement with British West Indies becomes effective. June 1, Sixth Dominion census. June 20-Aug. 5, Imperial Conference. Sept. 5-Oct. 5, Second meeting of Assembly of League of Nations at Geneva. Nov. 11, Opening of conference on limitation of armament at Washington. Dec. 6, Dominion general election. Dec. 29, New Ministry (Liberal), with Right Hon. W. L. Mackenzie King as Prime Minister, is sworn in.

1922. Feb. 1, Arms Conference at Washington approves 5-power treaty, limiting capital fighting ships and pledging against unrestricted submarine warfare and use of poison gas. Mar. 8-June 28, First session of fourteenth Parliament of Canada. April 10, General Economic Conference opened at Genoa. July 13, Conference between Canada and the United States *re* perpetuating the Rush-Bagot treaty regarding armament on the Great Lakes.

Aug. 7, Allies' Conference on war debts and reparations opened at London. Sept. 4, Third Assembly of League of Nations opened at Geneva. Oct. 10, Mudania Armistice signed by Britain, France and Turkey. Oct. 14, Fourth International Labour Conference at Geneva. Nov. 20, Turkish Peace Conference opened at Lausanne. Dec. 9, Reparations Conference opened at London. Dec. 15, Signing of trade agreement between Canada and France.

1923. Jan. 4, Signing of trade agreement between Canada and Italy. Jan. 31-June 30, Second session of fourteenth Parliament of Canada. April 1, Removal of British embargo on Canadian cattle effective. June 22, Manitoba votes for government control of the sale of liquor in the province. Sept. 3, Fourth session of League of Nations at Geneva. Oct. 1, Imperial Conference and Economic Conference at London. Nov. 5, Alberta votes for government control of the liquor traffic.

1924. Feb. 28-July 19. Third session of the fourteenth Parliament of Canada. April 23, British Empire Exhibition opened by King George at Wembley, England, with the Prince of Wales as President. July 3, Trade agreement between Canada and Belgium signed at Ottawa. July 16, Saskatchewan votes in favour of government control of the liquor traffic. Aug. 6-Aug. 16, Meeting of the British Association for the Advancement of Science at Toronto. Aug. 11-16, Meeting of International Mathematical Congress at Toronto. Sept. 1, Opening of fifth session of League of Nations at Geneva, Switzerland. Oct. 23, Plebiscite on liquor question in Ontario; reduced majority for continuance of prohibition regulations.

1925. Feb. 5-June 27, Fourth session of fourteenth Parliament of Canada. June 2, Provincial general election in Saskatchewan. Liberal party under Hon. C. A. Dunning returned to office. June 10, Inauguration of the United Church of Canada. June 25, Provincial general election in Nova Scotia; Conservative party under Hon. E. N. Rhodes returned to office. July 6, Signing at Ottawa of trade agreement between Canada and the British West Indies. Aug. 10, Provincial general election in New Brunswick; Conservative party under Hon. J. B. M. Baxter returned to office. Aug. 10, Resumption of work in Nova Scotia coal mines after 5 months' strike. Sept. 5, Fourteenth Parliament dissolved. Oct. 29, Dominion general elections. Nov. 20, Death of Queen Alexandra.

1926. Jan. 7-July 1, First session of fifteenth Parliament of Canada. April 15, Budget speech; reductions of income and other taxes announced. June 28, Resignation of Rt. Hon. W. L. Mackenzie King, Prime Minister, and his Cabinet. Provincial general elections in Alberta; United Farmers under Premier Brownlee retain office. June 29, Rt. Hon. Arthur Meighen becomes Prime Minister. July 1, Two-cent domestic rate of postage restored. July 2, Fifteenth Parliament dissolved. July 13, Composition of Mr. Meighen's Cabinet announced (see p. 77 of the 1927-28 Year Book). Sept. 14, Dominion general elections. Sept. 25, Rt. Hon. W. L. Mackenzie King becomes Prime Minister (for composition of Cabinet see p. 69 of Canada Year Book, 1930). Oct. 19-Nov. 23, Imperial Conference in London. Nov. 26, Hon. C. Vincent Massey is appointed Envoy Extraordinary and Minister Plenipotentiary to the United States. Dec. 1, General election in Ontario; Ferguson Government retains office. Dec. 9, Opening of first session of sixteenth Parliament.

1927. Feb. 8-April 14, Continuation of first session of the sixteenth Parliament of Canada. Feb. 17, Budget speech; reductions of income tax, sales tax and stamp tax on cheques announced. May 16, General elections in Quebec; the Liberal Government of Hon. L. A. Taschereau sustained. June 1, Hon. Wm. Phillips, first U.S. Minister to Canada, reaches Ottawa. June 25, General election in Prince Edward Island; the Conservative Government of Hon. J. D. Stewart defeated. June 28, General election in Manitoba; the Government of Hon. John Bracken sustained. July 1-3, Diamond Jubilee of Confederation celebrated throughout the Dominion. July 30. The Prince of Wales, Prince George, the Rt. Hon. Stanley Baldwin and party, arrive at Quebec on a visit to Canada. Sept., Canada elected as a non-permanent member of the Council of the League of Nations at Geneva. Nov., Dominion-Provincial Conference on the relations between the Dominion and the provinces.

1928. Jan. 26-June 11, Second session of the sixteenth Parliament of Canada. Jan. 30, President Cosgrove of the Irish Free State visits Ottawa. Death of Earl Haig. Feb. 10, Fire in Hollinger mine. Feb. 15, Death of the Earl of Oxford and Asquith. Feb. 16, Budget speech announces reduction in taxation. April 25, Sir Wm. H. Clark appointed first British High Commissioner to Canada. May 31, Legislative Council of Nova Scotia ceases to exist, leaving Quebec as the only province with a bi-cameral Legislature. July 18, General elections in British Columbia; Conservatives successful. Aug. 24-Oct. 5, Empire Parliamentary Association visits Canada. Oct. 1, General elections in Nova Scotia, Conservatives retain power.

1929. Feb. 7-June 14, Third session of the sixteenth Parliament of Canada. Mar. 29, Death of Sir Lomer Gouin. June 5, General election in Saskatchewan. Sept. 9, Dr. J. T. M. Anderson becomes Premier of Saskatchewan. Oct. 15-25, The Rt. Hon. J. Ramsay Macdonald, Prime Minister of Great Britain, visits Canada. Oct. 30, General elections in Ontario. Conservatives retain power. Nov. 11, Death of Hon. Jas. A. Robb, Minister of Finance.

1930. Jan. 21, Five power naval arms conference opens at London: Canada represented by Hon. J. L. Ralston. Feb. 3, Death of Hon. P. C. Larkin. Feb. 20, Fourth session of the sixteenth Parliament of Canada commences. May 30, Dissolution of sixteenth Parliament of Canada. June 19, General elections in Alberta. United Farmers retain power. June 20, General election in New Brunswick. Conservatives retain power. July 28, Dominion General election. Liberal Government of Rt. Hon. W. L. Mackenzie King defeated. Aug. 1, H.M. Airship R-100 arrives at Montreal, being the first trans-atlantic lighter-than-air craft to reach Canada. Aug. 7, Conservative Government of Hon. R. B. Bennett takes office as the fifteenth Ministry since Confederation (for the names of the Ministers see p. 91). Sept. 8-22, First (special) session of the seventeenth Parliament of Canada. Oct. 1, Imperial Conference in London.

CHAPTER III.—CONSTITUTION AND GOVERNMENT.

The Dominion of Canada is the largest in area and the most populous of the great self-governing Dominions of the British Empire, which also include the Irish Free State (Saorstat Eireann), the Commonwealth of Australia, the Union of South Africa, the Dominion of New Zealand, the island colony of Newfoundland (with the Labrador coast), the colony of Southern Rhodesia, and the island of Malta. These Dominions enjoy responsible government of the British type, administered by executive Councils (or Cabinets), acting as advisors to the representatives of the Sovereign, the executive Councils being themselves responsible to and possessing the confidence of the representatives elected to Parliament by the people, and giving place to other persons more acceptable to Parliament whenever that confidence is shown to have ceased to exist. The Imperial Conference of 1926 defined the group of self-governing communities consisting of Great Britain and the Dominions as "autonomous Communities within the British Empire, equal in status, in no way subordinate one to another in any aspect of their domestic or foreign affairs, though united by a common allegiance to the Crown, and freely associated as members of the British Commonwealth of Nations". The Conference further laid down that, as a consequence of this equality of status, the Governor General of a Dominion "is the representative of the Crown, holding in all essential respects the same position in relation to the administration of public affairs in the Dominion as is held by His Majesty the King in Great Britain", and that "it is the right of the Government of each Dominion to advise the Crown in all matters relating to its own affairs". The Conference also recognized certain treaty-making rights as appertaining to the Dominions. At the Imperial Conference of 1930 the constitutional status of the Dominions was further strengthened by the decisions to repeal the Colonial Laws Validity Act and to establish a voluntary Empire judicial tribunal. It was also definitely laid down that the King appoints his Governors General through the Dominion Governments.

Of these Dominions, Canada, Australia and South Africa extend over enormous areas of territory, each of the first two approximating in area to Europe, and including great provinces or states larger than most of its great Powers. Each province or state has its own problems and its own point of view, so that local Parliaments for each section, as well as the central Parliament for the whole country, are required. These local Parliaments, established when transportation and communication were more difficult and expensive than at present, were chronologically prior to the central body, to which on its formation they either resigned certain powers, as in the case of Australia, or surrendered all their powers with certain specified exceptions, as in Canada and South Africa. Of such local Parliaments, Canada at the present time has nine, Australia six, and South Africa four.

Besides the Dominions above enumerated, the great Empire of India has internationally been accepted as a member of the League of Nations, and in its internal administration has been placed on the road, formerly traversed by the Dominions which are now fully self-governing, towards responsible government. At the time of going to press, a constitution is being actually formulated for India along Dominion lines. Indeed, the whole evolution of the Empire, throughout all its parts which are more than mere fortresses like Gibraltar or trading stations like Hong Kong, is in the direction of responsible government, to be attained in the dependencies as it has been in what used to be called the colonies, by the gradual extension of self-government in proportion to the growing capacities of their respective populations. It is the recognized aim of British administrators, by the extension of educational facilities and by just administration, to develop these capacities to the utmost, so that in the dependencies, as well as in the Dominions and in the Mother Country, the constitutional history of the future may be a record of "freedom slowly broadening down from precedent to precedent".

A conference on the operation of Dominion legislation and merchant shipping legislation, arising out of the report of the Imperial Conference of 1926, was held in London from Oct. 8 to Dec. 4, 1929. This conference dealt with the power of disallowing or reserving Dominion legislation, the extra-territorial operation of Dominion legislation and merchant shipping legislation, on all which subjects its report was generally in the nature of giving effect to the definition of the equal status of the Dominions as made by the Imperial Conference of 1926.

PART I.—CONSTITUTION AND GENERAL GOVERNMENT.

Under the above heading a brief historical and descriptive account of the evolution of the general government of Canada was given on pp. 89-100 of the Canada Year Book, 1922-23.

PART II.—PROVINCIAL AND LOCAL GOVERNMENT.

Under the heading "Provincial and Local Government in Canada", a brief account of the government of each of the provinces of Canada and of its municipal institutions and judicial organization was published on pp. 101-115 of the 1922-23 edition of the Year Book.

PART III.—LEGISLATIVE AND EXECUTIVE AUTHORITIES.

Section 1.—Dominion Parliament and Ministry.

The Dominion Parliament is composed of the King, represented by the Governor General, the Senate and the House of Commons. The Governor General is appointed by the King. Members of the Senate are appointed for life by the Governor General in Council and members of the House of Commons are elected by the people. As a result of the working out of the democratic principle, the part played by the King's Representative and the Upper Chamber of Parliament in the country's legislation has been, in Canada as in the Mother Country, a steadily decreasing one, the chief responsibilities involved in legislation being assumed by the House of Commons.

Subsection 1.—The Governor General of Canada.

The Governor General is appointed by the King as his representative in Canada, usually for a term of five years, with a salary fixed at £10,000 sterling per annum and forming a charge against the consolidated revenue of the country. The Governor General is bound by the terms of his commission and can exercise only such authority as is expressly entrusted to him. He acts under the advice of his Ministry, which is responsible to Parliament, and, as the acting head of the executive, summons, prorogues, and dissolves Parliament and assents to or reserves bills. In the discharge of these and other executive duties, he acts entirely by and with the advice of his Ministry (the Governor General in Council). The royal prerogative of mercy in capital cases, formerly exercised on the Governor General's own judgment and responsibility, is now exercised pursuant to the advice of the Ministry. The practice whereby the Governor General served as the medium of communication between the Canadian and the British Governments has been given up; since July 1, 1927, direct communication between His Majesty's Government in Canada and His Majesty's Government in Great Britain has been instituted.

A list of the Governors General from the time of Confederation, with the dates of their appointment and assumption of office, is given in Table **1**.

1.—Governors General of Canada, 1867-1931.

Name.	Date of Appointment.	Date of Assumption of Office.
Viscount Monck, G.C.M.G	June 1, 1867	July 1, 1867
Lord Lisgar, G.C.M.G	Dec. 29, 1868	Feb. 2, 1869
The Earl of Dufferin, K.P., K.C.B., G.C.M.G	May 22, 1872	June 25, 1872
The Marquis of Lorne, K.T., G.C.M.G	Oct. 5, 1878	Nov. 25, 1878
The Marquis of Lansdowne, G.C.M.G	Aug. 18, 1883	Oct. 23, 1883
Lord Stanley of Preston, G.C.B	May 1, 1888	June 11, 1888
The Earl of Aberdeen, K.T., G.C.M.G	May 22, 1893	Sept. 18, 1893
The Earl of Minto, G.C.M.G	July 30, 1898	Nov. 12, 1898
The Earl Grey, G.C.M.G	Sept. 26, 1904	Dec. 10, 1904
Field Marshal H.R.H. the Duke of Connaught, K.G	Mar. 21, 1911	Oct. 13, 1911
The Duke of Devonshire, K.G., G.C.M.G., G.C.V.O	Aug. 19, 1916	Nov. 11, 1916
General the Lord Byng of Vimy, G.C.B., G.C.M.G., M.V.O	Aug. 2, 1921	Aug. 11, 1921
Viscount Willingdon of Ratton, G.C.S.I., G.C.I.E., G.B.E	Aug. 5, 1926	Oct. 2, 1926
The Earl of Bessborough	Feb. 9, 1931	April 4, 1931

Subsection 2.—The Ministry.

A system of government based upon the British, by which a Cabinet or Ministry (composed of members of the House of Commons or the Senate), responsible to Parliament, holds office while it enjoys the confidence of the people's representatives, is found in Canada. The Cabinet is actually a committee of the King's Privy Council for Canada. Without enlarging upon the features of the system, it may be sufficient to note that the Cabinet is responsible to the House of Commons, and, following established precedent, resigns office when it becomes evident that it no longer holds the confidence of the people's representatives. Members of the Cabinet are chosen by the Prime Minister; each of them generally assumes charge of one of the various Departments of the Government, although one Minister may hold two portfolios at the same time, while other members may be without portfolio.

The Prime Ministers since Confederation and the dates of their tenures of office, together with the members of the fifteenth Ministry, as at their assumption of office on Aug. 7, 1930, are given in Table **2.** The complete list of the members of the King's Privy Council for Canada, as at Dec. 31, 1930, is added as Table **3.**

2.—Ministries since Confederation.

NOTE.—A complete list of the members of Dominion Ministries from Confederation to 1913 appeared in the Year Book of 1912, pp. 422-429. A list of the members of Dominion Ministries from 1911 to 1921 appeared in the Year Book of 1920, pp. 651-653. A list of the members of the twelfth and thirteenth Ministries appeared on pp. 76-77 of the 1927-28 Year Book. Members of the fourteenth Ministry are listed at p. 65 of the 1929 Year Book and p. 69 of the 1930 Year Book.

1. Rt. Hon. Sir John A. Macdonald, Premier. From July 1, 1867, to Nov. 6, 1873.
2. Hon. Alexander Mackenzie, Premier. From Nov. 7, 1873, to Oct. 16, 1878.
3. Rt. Hon. Sir John A. Macdonald, Premier. From Oct. 17, 1878, to June 6, 1891.
4. Hon. Sir John J. C. Abbott, Premier. From June 16, 1891, to Dec. 5, 1892.
5. Hon. Sir John S. D. Thompson, Premier. From Dec. 5, 1892, to Dec. 12, 1894.
6. Hon. Sir Mackenzie Bowell, Premier. From Dec. 21, 1894, to April 27, 1896.
7. Hon. Sir Charles Tupper, Premier. From May 1, 1896, to July 8, 1896.
8. Rt. Hon. Sir Wilfrid Laurier, Premier. From July 11, 1896, to Oct. 6, 1911.
9. Rt. Hon. Sir Robert L. Borden, Premier. (Conservative Administration). From Oct. 10, 1911, to Oct. 12, 1917.
10. Rt. Hon. Sir Robert L. Borden, Premier. (Unionist Administration). From Oct. 12, 1917, to July 10, 1920.
11. Rt. Hon. Arthur Meighen, Premier. (Unionist—"National Liberal and Conservative Party".) From July 10, 1920, to Dec. 29, 1921.
12. Rt. Hon. William Lyon Mackenzie King, Premier. From Dec. 29, 1921, to June 28, 1926.
13. Rt. Hon. Arthur Meighen, Premier. From June 29, 1926, to Sept. 25, 1926.
14. Rt. Hon. William Lyon Mackenzie King, Premier. From Sept. 25, 1926, to Aug. 6, 1930.
15. Rt. Hon. R. B. Bennett, Premier. From Aug. 7, 1930.

FIFTEENTH DOMINION MINISTRY.

(According to precedence Jan. 1, 1931.)

Office.	Occupant.	Date of Appointment.
Prime Minister, President of the Privy Council, Secretary of State for External Affairs	Right Hon. R. B. Bennett, K.C.	Aug. 7, 1930
Minister of Finance	Right Hon. R. B. Bennett, K.C.	Aug. 7, 1930
Minister without Portfolio	Right Hon. Sir George H. Perley	Aug. 7, 1930
Minister of Labour	Hon. Gideon D. Robertson (Senator)	Aug. 7, 1930
Minister of Justice and Attorney-General	Hon. Hugh Guthrie, K.C.	Aug. 7, 1930
Minister of Fisheries	Hon. E. N. Rhodes, K.C.	Aug. 7, 1930
Minister of Trade and Commerce	Hon. H. H. Stevens	Aug. 7, 1930
Minister of Railways and Canals	Hon. Dr. R. J. Manion, M.C., M.D.	Aug. 7, 1930
Minister of National Revenue	Hon. E. B. Ryckman, K.C.	Aug. 7, 1930
Minister without Portfolio	Hon. J. A. Macdonald	Aug. 7, 1930
Postmaster-General	Hon. Arthur Sauvé	Aug. 7, 1930
Minister of Pensions and National Health	Col. the Hon. Murray MacLaren, C.A.M.C., C.M.G., M.D., C.M., M.R.C.S.	Aug. 7, 1930
Minister of Public Works	Hon. H. A. Stewart, K.C.	Aug. 7, 1930
Secretary of State	Hon. C. H. Cahan, K.C.	Aug. 7, 1930
Minister of National Defence	Lt.-Col. the Hon. D. M. Sutherland, M.B., D.S.O.	Aug. 7, 1930
Minister of Marine	Hon. Alfred Duranleau, K.C.	Aug. 7, 1930
Minister of Interior and Superintendent-General of Indian Affairs	Hon. Thomas G. Murphy	Aug. 7, 1930
Solicitor-General	Hon. Maurice Dupré, K.C.	Aug. 7, 1930
Minister of Immigration and Colonization and Minister of Mines	Hon. W. A. Gordon, K.C.	Aug. 7, 1930
Minister of Agriculture	Major the Hon. Robert Weir	Aug. 7, 1930

3.—Members of the King's Privy Council for the Dominion of Canada, According to Seniority Therein,[1] as at Dec. 31, 1930.

NOTE.—In this list the prefix Rt. Hon. indicates membership in the British Privy Council. Besides those mentioned in this list, the Rt. Hon. F. A. Anglin, Chief Justice of the Supreme Court, and the Rt. Hon. L. P. Duff, Justice of the Supreme Court, are Canadian members of the British Privy Council.

Name.	Date when Sworn In.
The Rt. Hon. Sir George E. Foster	Dec. 10, 1885
The Rt. Hon. Sir William Mulock	July 13, 1896
The Rt. Hon. Sir Charles Fitzpatrick [6]	Feb. 11, 1902
The Hon. N. A. Belcourt	Jan. 12, 1905
The Hon. F. Oliver	April 8, 1905
The Hon. Sir A. B. Aylesworth	Oct. 16, 1905
The Hon. Rodolphe Lemieux	June 4, 1906
The Rt. Hon. George P. Graham	Aug. 30, 1907
The Hon. Charles Murphy	Oct. 5, 1908
The Hon. R. Dandurand	Jan. 20, 1909
The Rt. Hon. W. L. Mackenzie King [5]	June 2, 1909
The Hon. Charles Marcil	Oct. 6, 1911
The Rt. Hon. Sir Robert Laird Borden	Oct. 10, 1911
The Rt. Hon. Sir George Halsey Perley [2]	Oct. 10, 1911
The Hon. Robert Rogers	Oct. 10, 1911
The Rt. Hon. Sir Thomas White	Oct. 10, 1911
The Hon. Sir John Douglas Hazen	Oct. 10, 1911
The Rt. Hon. Charles Joseph Doherty	Oct. 10, 1911
The Hon. William James Roche	Oct. 10, 1911
The Hon. Wilfrid Bruno Nantel	Oct. 10, 1911
The Hon. Martin Burrell	Oct. 16, 1911
The Hon. Henri S. Béland	Feb. 15, 1912
The Hon. Louis Coderre	Oct. 29, 1912
The Hon. Pierre Édouard Blondin	Oct. 20, 1914
The Rt. Hon. Arthur Meighen	Oct. 2, 1915
The Hon. Ésioff Léon Patenaude	Oct. 6, 1915
The Rt. Hon. William Morris Hughes	Feb. 18, 1916
The Hon. Albert Sévigny	Jan. 8, 1917
The Hon. Charles Colquhoun Ballantyne	Oct. 3, 1917
The Hon. James Alexander Calder	Oct. 12, 1917
The Hon. Newton Wesley Rowell	Oct. 12, 1917
The Hon. Sydney Chilton Mewburn	Oct. 12, 1917
The Hon. Thomas Alexander Crerar	Oct. 12, 1917
The Hon. Alexander K. Maclean	Oct. 23, 1917
The Hon. Gideon D. Robertson [2]	Oct. 23, 1917
The Hon. Sir Hormisdas Laporte	Nov. 13, 1917
The Hon. Hugh Guthrie [2]	July 5, 1919
The Hon. Sir Henry Lumley Drayton	Aug. 2, 1919
The Hon. Simon Fraser Tolmie	Aug. 12, 1919
The Hon. Fleming Blanchard McCurdy	July 13, 1920
The Hon. Rupert W. Wigmore	July 13, 1920
The Hon. Edgar N. Rhodes [2]	Feb. 22, 1921
The Hon. William Smith	Mar. 4, 1921
The Hon. John Babington Macaulay Baxter	Sept. 21, 1921
The Hon. Henry Herbert Stevens [2]	Sept. 21, 1921
The Hon. Robert James Manion [2]	Sept. 22, 1921
The Hon. James Robert Wilson	Sept. 26, 1921
The Rt. Hon. Richard Bedford Bennett [4]	Oct. 4, 1921
The Hon. Jacques Bureau	Dec. 29, 1921
The Hon. Ernest Lapointe	Dec. 29, 1921
The Hon. Thomas Andrew Low	Dec. 29, 1921
The Hon. Arthur Bliss Copp	Dec. 29, 1921
The Hon. Charles Stewart	Dec. 29, 1921
The Hon. William Richard Motherwell	Dec. 29, 1921
The Hon. James Murdock	Dec. 29, 1921
The Hon. John Ewen Sinclair	Dec. 30, 1921
The Hon. James H. King	Feb. 3, 1922
The Hon. Edward Mortimer Macdonald	April 12, 1923
The Hon. Edward James McMurray	Nov. 14, 1923
The Hon. Pierre Joseph Arthur Cardin	Jan. 30, 1924
The Hon. Harold Buchanan McGiverin	Sept. 20, 1924
The Hon. Fréderic Liguori Béique	May 20, 1925
The Hon. George Newcombe Gordon	Sept. 7, 1925
The Hon. Herbert Marler [7]	Sept. 9, 1925
The Hon. Charles Vincent Massey	Sept. 16, 1925
The Hon. Walter Edward Foster	Sept. 26, 1925
The Hon. Philippe Roy [7]	Feb. 9, 1926
The Hon. Charles A. Dunning	Mar. 1, 1926
The Hon. John C. Elliott	Mar. 8, 1926
The Hon. William Anderson Black	June 29, 1926
The Hon. James D. Chaplin	July 13, 1926
The Hon. George Burpee Jones	July 13, 1926
The Hon. Edmond Baird Ryckman [2]	July 13, 1926
The Hon. Donald Sutherland	July 13, 1926
The Hon. Raymond Ducharme Morand	July 13, 1926
The Hon. John Alexander Macdonald [2]	July 13, 1926
The Hon. John Leo Chabot	July 19, 1926
The Hon. Eugène Paquet	Aug. 23, 1926
The Hon. Guillaume André Fauteux	Aug. 23, 1926
The Hon. Lucien Cannon	Sept. 25, 1926
The Hon. Peter John Veniot	Sept. 25, 1926
The Hon. William D. Euler	Sept. 25, 1926
The Hon. Fernand Rinfret	Sept. 25, 1926
The Hon. James Malcolm	Sept. 25, 1926
The Hon. Robert Forke	Sept. 25, 1926
The Hon. Peter Heenan	Sept. 25, 1926
The Hon. James Layton Ralston	Oct. 8, 1926
H.R.H. Edward Albert Christian George Andrew Patrick David, Prince of Wales	Aug. 2, 1927
The Rt. Hon. Stanley Baldwin	Aug. 2, 1927
The Hon. Thomas Ahearn	Jan. 10, 1928
The Rt. Hon. James Ramsay MacDonald	Oct. 18, 1929
The Hon. William Frederick Kay	June 17, 1930
The Hon. Cyrus Macmillan	June 17, 1930
The Hon. Ian Alistair Mackenzie	June 27, 1930
The Hon. Arthur C. Hardy	July 31, 1930
The Hon. Arthur Sauvé [2]	Aug. 7, 1930
The Hon. Murray MacLaren [2]	Aug. 7, 1930
The Hon. Hugh Alexander Stewart [2]	Aug. 7, 1930
The Hon. Charles Hazlitt Cahan [2]	Aug. 7, 1930
The Hon. Donald Matheson Sutherland [2]	Aug. 7, 1930
The Hon. Alfred Duranleau [2]	Aug. 7, 1930
The Hon. Thomas Geron Murphy [2]	Aug. 7, 1930
The Hon. Maurice Dupré [2]	Aug. 7, 1930
The Hon. Wesley Ashton Gordon [2]	Aug. 7, 1930
The Hon. Robert Weir [2]	Aug. 7, 1930

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[1] As in the case of Privy Councillors of the United Kingdom, members of His Majesty's Privy Council for Canada take rank *inter se* according to the dates of their being sworn in. [2] Ranks as a Member of the Cabinet. [3] Ranks as a Senator. [4] Ranks as the Prime Minister of Canada. [5] Ranks as the Leader of the Opposition. [6] Ranks as Retired Chief Justice of Canada. [7] Canadian Ministers abroad.

In Table 4 are given the dates of the opening and prorogation of the sessions of the various Dominion Parliaments from 1867 to 1931.

4.—Duration and Sessions of Dominion Parliaments, 1867-1931.

Number of Parliament.	Session.	Date of Opening.	Date of Prorogation.	Days of Session.	Elections, Writs Returnable, Dissolutions and Lengths of Parliaments.[7]
1st Parliament	1st	Nov. 1, 1867	May 22, 1868	118[1]	Aug., Sept., 1867.[3] Sept. 24, 1867.[4] July 8, 1872.[5] 4 y., 9 m., 15 d.[6]
	2nd	April 15, 1869	June 22, 1869	69	
	3rd	Feb. 15, 1870	May 12, 1870	87	
	4th	Feb. 15, 1871	April 14, 1871	59	
	5th	April 11, 1872	June 14, 1872	65	
2nd Parliament	1st	Mar. 5, 1873	Aug. 13, 1873	81[2]	July, Aug., Sept., 1872.[3] Sept. 3, 1872.[4] Jan. 2, 1874.[5] 1 y., 4 m., 0 d.[6]
	2nd	Oct. 23, 1873	Nov. 7, 1873	16	
3rd Parliament	1st	Mar. 26, 1874	May 26, 1874	62	Jan. 22, 1874.[3] Feb. 21, 1874.[4] Aug. 17, 1878.[5] 4 y., 5 m., 25 d.[6]
	2nd	Feb. 4, 1875	April 8, 1875	64	
	3rd	Feb. 10, 1876	April 12, 1876	63	
	4th	Feb. 8, 1877	April 28, 1877	80	
	5th	Feb. 7, 1878	May 10, 1878	93	
4th Parliament	1st	Feb. 13, 1879	May 15, 1879	92	Sept. 17, 1878.[3] Nov. 21, 1878.[4] May 18, 1882.[5] 3 y., 5 m., 28 d.[6]
	2nd	Feb. 12, 1880	May 7, 1880	86	
	3rd	Dec. 9, 1880	Mar. 21, 1881	103	
	4th	Feb. 9, 1882	May 17, 1882	98	
5th Parliament	1st	Feb. 8, 1883	May 25, 1883	107	June 20, 1882.[3] Aug. 7, 1882.[4] Jan. 15, 1887.[5] 4 y., 5 m., 10 d.[6]
	2nd	Jan. 17, 1884	April 19, 1884	94	
	3rd	Jan. 29, 1885	July 20, 1885	173	
	4th	Feb. 25, 1886	June 2, 1886	98	
6th Parliament	1st	April 13, 1887	June 23, 1887	72	Feb. 22, 1887.[3] April 7, 1887.[4] Feb. 3, 1891.[5] 3 y., 9 m., 27 d.[6]
	2nd	Feb. 23, 1888	May 22, 1888	90	
	3rd	Jan. 31, 1889	May 2, 1889	92	
	4th	Jan. 16, 1890	May 16, 1890	121	
7th Parliament	1st	April 29, 1891	Sept. 30, 1891	155	Mar. 5, 1891.[3] April 25, 1891.[4] April 24, 1896.[5] 5 y., 0 m., 0 d.[6]
	2nd	Feb. 25, 1892	July 9, 1892	136	
	3rd	Jan. 26, 1893	April 1, 1893	66	
	4th	Mar. 15, 1894	July 23, 1894	131	
	5th	April 18, 1895	July 22, 1895	96	
	6th	Jan. 2, 1896	April 23. 1896	111	
8th Parliament	1st	Aug. 19, 1896	Oct. 5, 1896	48	June 23, 1896.[3] July 13, 1896.[4] Oct. 9, 1900.[5] 4 y., 2 m., 26 d.[6]
	2nd	Mar. 25, 1897	June 29, 1897	97	
	3rd	Feb. 3, 1898	June 13, 1898	131	
	4th	Mar. 16, 1899	Aug. 11, 1899	149	
	5th	Feb. 1, 1900	July 18, 1900	168	
9th Parliament	1st	Feb. 6, 1901	May 23, 1901	107	Nov. 7, 1900.[3] Dec. 5, 1900.[4] Sept. 29, 1904.[5] 3 y., 9 m., 26 d.[6]
	2nd	Feb. 13, 1902	May 15, 1902	90	
	3rd	Mar. 12, 1903	Oct. 24, 1903	227	
	4th	Mar. 10, 1904	Aug. 10, 1904	154	
10th Parliament	1st	Jan. 11, 1905	July 20, 1905	191	Nov. 3, 1904.[3] Dec. 15, 1904.[4] Sept. 17, 1908.[5] 3 y., 9 m., 4 d.[6]
	2nd	Mar. 8, 1906	July 13, 1906	128	
	3rd	Nov. 22, 1906	April 27, 1907	157	
	4th	Nov. 28, 1907	July 20, 1908	236	
11th Parliament	1st	Jan. 20, 1909	May 19, 1909	120	Oct. 26, 1908.[3] Dec. 3, 1908.[4] July 29, 1911.[5] 2 y., 7 m., 28 d.[6]
	2nd	Nov. 11, 1909	May 4, 1910	175	
	3rd	Nov. 17, 1910	July 29, 1911	196[8]	
12th Parliament	1st	Nov. 15, 1911	April 1, 1912	139	Sept. 21, 1911.[3] Oct. 7, 1911.[4] Oct. 6, 1917.[5] 6 y., 0 m., 0 d.[6]
	2nd	Nov. 21, 1912	June 6, 1913	173[9]	
	3rd	Jan. 15, 1914	June 12, 1914	148	
	4th	Aug. 18, 1914	Aug. 22, 1914	5	
	5th	Feb. 4, 1915	April 15, 1915	71	
	6th	Jan. 12, 1916	May 18, 1916	127	
	7th	Jan. 18, 1917	Sept. 20, 1917	207[10]	
13th Parliament	1st	Mar. 18, 1918	May 24, 1918	68	Dec. 17, 1917.[3] Feb. 27, 1918.[4] Oct. 4, 1921.[5] 3 y., 7 m., 6 d.[6]
	2nd	Feb. 20, 1919	July 7, 1919	138	
	3rd	Sept. 1, 1919	Nov. 10, 1919	71	
	4th	Feb. 26, 1920	July 1, 1920	127	
	5th	Feb. 14, 1921	June 4, 1921	111	

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[1] Adjourned from Dec. 21, 1867, to Mar. 12, 1868, to allow the local Legislatures to meet. [2] Adjourned May 23 till Aug. 13. [3] Period of general elections. [4] Writs returnable. [5] Dissolution of Parliament. [6] Duration of Parliament in years, months and days. The life of a Parliament is counted from the date of return of election writs to the date of dissolution, both days inclusive. [7] The ordinary legal limit of duration for each Parliament is five years. [8] Not including days (59) of adjournment from May 19 to July 18. [9] Not including days (25) of adjournment from Dec. 19, 1912 to Jan. 14, 1913. [10] Not including days (39) of adjournment from Feb. 7 to Mar. 19, 1917.

4.—Duration and Sessions of Dominion Parliaments, 1867-1931—concluded.

Number of Parliament.	Session.	Date of Opening.	Date of Prorogation.	Days of Session.	Elections, Writs Returnable, Dissolutions and Lengths of Parliaments.[7]
14th Parliament..........	1st	Mar. 8, 1922	June 28, 1922	113	Dec. 6, 1921.[3]
	2nd	Jan. 31, 1923	June 30, 1923	151	Jan. 14, 1922.[4]
	3rd	Feb. 28, 1924	July 19, 1924	143	Sept. 5, 1925.[5]
	4th	Feb. 5, 1925	June 27, 1925	143	3 y., 7 m., 26 d.[6]
15th Parliament..........	1st	Jan. 7, 1926	July 2, 1926	177[1]	Oct. 29, 1925.[3] Dec. 7, 1925.[4] July 2, 1926.[5] 208 d.[6]
16th Parliament..........	1st	Dec. 9, 1926	April 14, 1927	73[2]	Sept. 14, 1926 [3]
	2nd	Jan. 26, 1928	June 11, 1928	138	Nov. 2, 1926.[4]
	3rd	Feb. 7, 1929	June 14, 1929	128	May 30, 1930.[5]
	4th	Feb. 20, 1930	May 30, 1930	100	3 y., 7 m., 0 d.[6]
17th Parliament..........	1st	Sept. 8, 1930	Sept. 22, 1930	15	July 28, 1930.[3]
	2nd	Mar. 12, 1931	—	–	Aug. 18, 1930.[4]

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[1] Including days (13) of adjournment from Mar. 3 to Mar. 15. [2] Not including days (54) of adjournment from Dec. 15 to Feb. 8. [3] Period of general elections. [4] Writs returnable. [5] Dissolution of Parliament. [6] Duration of Parliament in years, months and days. The life of a Parliament is counted from the date of return of election writs to the date of dissolution, both days inclusive. [7] The ordinary legal limit of duration for each Parliament is five years.

A brief *résumé* of the history of parliamentary representation follows. Attention may be drawn to the growth in the number of members of both the Senate and the House of Commons since Confederation and to the greatly increased unit of representation in the Lower House.

Subsection 3.—The Senate.

The British North America Act, 1867, provides in sections 21 and 22 that "the Senate shall consist of seventy-two members, who shall be styled Senators. In relation to the constitution of the Senate, Canada shall be deemed to consist of three divisions—(1) Ontario; (2) Quebec; (3) The Maritime Provinces, Nova Scotia and New Brunswick; which three divisions shall be equally represented in the Senate as follows:—Ontario by twenty-four senators; Quebec by twenty-four senators; and the Maritime Provinces by twenty-four senators, twelve thereof representing New Brunswick and twelve thereof representing Nova Scotia. In the case of Quebec, each of the twenty-four senators representing the province shall be appointed for one of the electoral divisions of Lower Canada specified in schedule A to Chapter I of the Consolidated Statutes of Canada". Further, under section 147 of the same Act, it is provided that "in case of the admission to Confederation of Newfoundland or Prince Edward Island, ... each shall be entitled to a representation in the Senate of four members". "Prince Edward Island when admitted shall be deemed to be comprised in the third of the three divisions into which Canada is divided by this Act" and on its admission "the representation of Nova Scotia and New Brunswick shall, as vacancies occur, be reduced from twelve to ten members respectively". In case of the admission of Newfoundland, the normal membership of the Senate of 72 members was to be increased to 76, while the maximum number of 78 (sec. 28) was to be 82, sec. 26 containing a provision for the appointment of three or six additional members in certain cases, to represent equally the three divisions of Canada.

By 33 Vict., c. 3, an Act to establish and provide for the government of the province of Manitoba, passed in 1870, the newly formed province was given representation of two members in the Senate, provision being made at the same time for increases in representation to three and four on increases of population, according to the decennial census, to 50,000 and 75,000 respectively. In the following year, British Columbia, on being admitted to the Union by an Imperial Order in Council of May 16, 1871, was given representation by three senators. Two years later, when Prince Edward Island was admitted to Confederation by an Imperial Order in Council of June 26, 1873, it was granted representation in the Senate of four members under the terms of the British North America Act, as cited above. Thus, in 1873, the seven provinces of Ontario, Quebec, Nova Scotia, New Brunswick, Manitoba, British Columbia and Prince Edward Island were represented by a total of 77 members in the Senate, their individual representation at the time being 24, 24, 10, 10, 2, 3 and 4 members respectively.

In 1882, following the 1881 census and an increase of population in Manitoba to 62,260 persons, the representation of this province was increased to three members under authority of the Manitoba Act, 1870. Later, by 50-51 Vict., c. 38, an Act of 1887, the representation of the Northwest Territories in the Senate was fixed at two members. A subsequent increase resulted from the growth of population in Manitoba to 152,506, as shown by the census of 1891, the province being granted a fourth senator under the terms of the Manitoba Act of 1870. An Act passed in the session of 1903, 3 Edw. VII, c. 42, provided for an increase in the representation of the Northwest Territories from two to four members, bringing the total representation at this date to 83 members.

On the establishment of the provinces of Alberta and Saskatchewan out of the former Northwest Territories in 1905, under 4-5 Edw. VII, cc. 3 and 42, provision was made for their representation in the Senate by 4 members each, which might be increased by Parliament to 6 on the completion of the next decennial census. This change in representation brought the membership of the Upper Chamber to a total of 87.

In 1915, by an amendment to the British North America Act (5-6 Geo. V, c. 45), an important change was made with regard to the constitution of the Senate. The number of divisions provided for by section 22 of the original Act was increased from three to four, the fourth comprising the four western provinces of Manitoba, Saskatchewan, Alberta and British Columbia. Each of these provinces was to be represented by 6 members under the Act, the division being thus represented by 24 members and placed on an equality with the others with respect to membership. A corresponding change was made in the number of additional senators provided for by the original British North America Act, by substituting increases of four or eight members for the three or six cited in section 26 of the Act of 1867. Normal representation, therefore, is at present fixed at 96, which number may be increased if necessary to 100 or to a maximum of 104.

The entry of Newfoundland to the Union is still provided for by the above Act, sub-section 6 of sec. 1 of which sets out its representation as six members instead of the four granted by the Act of 1867. Should Newfoundland be admitted to the Dominion, the normal number of senators is to be 102 with a maximum of 110.

In Table **5** the growth of membership in the Senate is shown by divisions and provinces from 1867 to 1915, since when no change has taken place. The names and addresses of the senators from each province are given as at Jan. 1, 1931, in Table **6**.

5.—Growth of Representation in the Senate, 1867-1931.

Province.	1867.	1870.	1871.	1873.	1882.	1887.	1892.	1903.	1905.	1915-1931.
(1) Ontario	24	24	24	24	24	24	24	24	24	24
(2) Quebec	24	24	24	24	24	24	24	24	24	24
(3) Maritime Provinces	24	24	24	24	24	24	24	24	24	24
Nova Scotia	12	12	12	10	10	10	10	10	10	10
New Brunswick	12	12	12	10	10	10	10	10	10	10
Prince Edward Island	–	–	–	4	4	4	4	4	4	4
(4) Western Provinces	–	2	5	5	6	8	9	11	15	24
Manitoba	–	2	2	2	3	3	4	4	4	6
British Columbia	–	–	3	3	3	3	3	3	3	6
Saskatchewan	–	–	–	–	–	2	2	4	4	6
Alberta	–	–	–	–	–				4	6
Totals	**72**	**74**	**77**	**77**	**78**	**80**	**81**	**83**	**87**	**96**

6.—Representation in the Senate of Canada, by Provinces, as at Jan. 1, 1931.

Name of Senator.	Post Office Address.
Prince Edward Island—(4 senators)	
McLean, John	Souris.
Hughes, James J	Souris.
MacArthur, Creelman	Summerside.
Sinclair, John E., P.C	Emerald.
Nova Scotia—(10 senators).	
Farrell, Edward M	Liverpool.
Curry, Nathaniel	Amherst.
Girroir, E. L	Antigonish.
McLennan, John S	Sydney.
Tanner, C. E	Pictou.
Stanfield, John	Truro.
McCormick, John	Sydney Mines.
Martin, Peter	Halifax.
Hatfield, Paul L	Yarmouth.
Logan, H. J	Parrsboro.
New Brunswick—(10 senators)	
Poirier, Pascal	Shediac.
Daniel, J. W	Saint John.
Bourque, T. J	Richibucto.
Todd, Irving R	Milltown.
McDonald, J. A	Shediac.
Black, Frank B	Sackville.
Turgeon, Onésiphore	Bathurst.
Robinson, C. W	Moncton.
Copp, A. B., P.C	Sackville.
Foster, W. E., P.C	Saint John.
Quebec—(24 senators).	
Dandurand, R., P.C	Montreal.
Casgrain, J. P. B	Montreal.
Béique, F. L., P.C	Montreal.
Legris, J. H	Louiseville.
Tessier, Jules	Quebec.
Wilson, J. M	Montreal.
Pope, Rufus H	Cookshire.
Beaubien, C. P	Montreal.
L'Espérance, D. O	Quebec.
Quebec—concluded.	
Foster, G. G.[1]	Montreal.
White, R. S	Montreal.
Blondin, P. E., P.C	Montreal.
Chapais, Thomas	Quebec.
Webster, L. C	Montreal.
Béland, H. S., P.C	St.Joseph de Beauce.
Bureau, Jacques, P.C	Three Rivers.
McDougald, Wilfrid L	Montreal.
Raymond, Donat	Montreal.
Paradis, Philippe J	Quebec.
Lemieux, R., P.C	Ottawa.
Tobin, E. W	Bromptonville.
Parent, G	Quebec.
Prévost, J. E	St. Jerôme.
Wilson, L. A	Coteau du Lac.
Ontario—(24 senators).	
Belcourt, N. A., P.C	Ottawa.
Gordon, Geo	North Bay.
Smith, E. D	Winona.
Donnelly, J. J	Pinkerton.
Lynch-Staunton, G	Hamilton.
Robertson, G. D., P.C	Welland.
Fisher, J. H	Paris.
White, G. V	Pembroke.
Foster, Rt. Hon. Sir G. E., P.C	Ottawa.
Macdonell, A. H	Toronto.
Hardy, A. C	Brockville.
Aylesworth, Sir A. B., P.C	Toronto.
Haydon, Andrew	Ottawa.
Murphy, Chas., P.C	Ottawa.
Lewis, John	Toronto.
Rankin, Jas. P	Stratford.
Graham, Rt. Hon. George P., P.C	Brockville.
McGuire, William H	Toronto.
Spence, Jas. H	Toronto.
Little, Edgar S	London.
Lacasse, Gustave	Tecumseh.
Horsey, H. H	Cre sy.
Wilson, Cairine M	Ottawa.
Murdock, J., P.C	Ottawa.

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[1] Senator Foster died May 1, 1931.

6.—Representation in the Senate of Canada, by Provinces, as at Jan. 1, 1931—concluded.

Name of Senator.	Post Office Address.	Name of Senator.	Post Office Address.
Manitoba—(6 senators).		**Alberta**—(6 senators).	
Sharpe, W. H.	Manitou.	Michener, Edward	Red Deer.
McMeans, L.	Winnipeg.	Harmer, Wm. J.	Edmonton.
Bénard, Aimé	Winnipeg.	Griesbach, W. A.	Edmonton.
Schaffner, F. L.	Winnipeg.	Lessard, P. E.[2]	Edmonton.
Molloy, J. P.	Morris.	Buchanan, W. A.	Lethbridge.
Forke, Robert, P.C.	Pipestone.	Riley, Daniel E.	High River.
Saskatchewan—(6 senators).[1]		**British Columbia**—(6 senators)	
Ross, James H.	Moose Jaw.	Planta, A. E.	Nanaimo.
Laird, H. W.	Regina.	Barnard, G. H.	Victoria.
Willoughby, W. B.	Moose Jaw.	Taylor, J. D.	New Westminster.
Calder, J. A., P.C.	Regina.	Green, R. F.	Victoria.
Gillis, A. B.	Whitewood.	Crowe, S. J.	Vancouver.
		King, J. H., P.C.	Vancouver.

[1] One vacancy. [2] Senator Lessard died April 11, 1931.

Subsection 4.—The House of Commons.

In section 37 of the original British North America Act of 1867 (30 Vict., c. 3), it was provided that "The House of Commons shall . . . . consist of one hundred and eighty-one members, of whom eighty-two shall be elected for Ontario, sixty-five for Quebec, nineteen for Nova Scotia, and fifteen for New Brunswick". Further, under section 51, it was enacted that after the completion of the census of 1871 and of each subsequent decennial census, the representation of the four provinces should be readjusted by such authority, in such manner, and from such time as the Parliament of Canada provided, subject to and according to the following rules:—

"(1) Quebec shall have the fixed Number of Sixty-five Members;

"(2) There shall be assigned to each of the other Provinces such a Number of Members as will bear the same Proportion to the Number of its Population (ascertained at such Census) as the Number Sixty-five bears to the Number of the Population of Quebec (so ascertained);

"(3) In the Computation of the Number of Members for a Province a fractional Part not exceeding One Half of the whole Number requisite for entitling the Province to a Member shall be disregarded; but a fractional Part exceeding One Half of that Number shall be equivalent to the whole Number;

"(4) On any such Re-adjustment the Number of Members for a Province shall not be reduced unless the Proportion which the Number of the Population of the Province bore to the Number of the aggregate Population of Canada at the then last preceding Re-adjustment of the Number of Members for the Province is ascertained at the then latest Census to be diminished by One Twentieth Part or upwards;

"(5) Such Re-adjustment shall not take effect until the Termination of the then existing Parliament."

Again, in section 52, it was enacted that "the number of members of the House of Commons may be from time to time increased by the Parliament of Canada, provided the proportionate representation of the Provinces prescribed by this Act is not thereby disturbed".

Later on, by the British North America Act of 1886 (49-50 Vict., c. 35), provision was made in section 1 that "the Parliament of Canada may from time to time make provision for the representation in the Senate and House of Commons of Canada, or in either of them, of any territories which for the time being form part of the Dominion of Canada, but are not included in any province thereof".

Again, in 1915, an amendment to the British North America Act (5-6 Geo. V, c. 45) was passed by the Imperial Parliament, providing that "notwithstanding anything in the said Act, a province shall always be entitled to a number of members in the House of Commons not less than the number of senators representing such province".

Readjustments in Representation.—As set out in the above-mentioned provisions of the British North America Act, the first Dominion Parliament of 1867 consisted at its commencement of 181 members, 82 for Ontario, 65 for Quebec, 19 for Nova Scotia and 15 for New Brunswick. To this number were added, under the Manitoba Act of 1870 (33 Vict., c. 3), 4 members to represent the newly created province of Manitoba; also, according to the agreement under which British Columbia entered Confederation, ratified by Imperial Order in Council of May 16, 1871, 6 members were added to represent the new province, making a total of 191 members at the end of the first Parliament of Canada.

Arising out of the first census of the Dominion in 1871, a readjustment of representation took place in 1872 (c. 15 of 1872), increasing the representation of Ontario from 82 to 88, of Nova Scotia from 19 to 21 and of New Brunswick from 15 to 16 members, the 9 additional members bringing the total number of representatives up to 200. To these were added in 1874, as a result of the agreement under which Prince Edward Island entered Confederation (ratified by Imperial Order in Council of June 26, 1873), 6 members representing that province—bringing the membership of the House of Commons to 206.

The results of the second census of 1881 necessitated the passage of a new Representation Act (45 Vict., c. 3), increasing the representation of Ontario from 88 to 92, and that of Manitoba from 4 to 5, thus bringing the membership of the House of Commons to 211 members. To these were added, under the provisions of 49 Vict., c. 24, passed in 1886, 4 members for the Northwest Territories (2 for the then provisional district of Assiniboia and 1 each for the then provisional districts of Alberta and Saskatchewan), bringing the total membership to 215.

The third census of 1891 was followed by another readjustment of representation, reducing the representation of Nova Scotia from 21 to 20, of New Brunswick from 16 to 14, of Prince Edward Island from 6 to 5, and increasing the representation of Manitoba from 5 to 7, the representation of the other provinces remaining as before. The net result was a reduction in the number of members of the House from 215 to 213.

The fourth census of 1901 resulted in a readjustment in 1903, reducing the representation of Ontario from 92 to 86, of Nova Scotia from 20 to 18, of New Brunswick from 14 to 13, of Prince Edward Island from 5 to 4. On the other hand, the representation of Manitoba was increased from 7 to 10, of British Columbia from 6 to 7, of the Northwest Territories from 4 to 10. By chapter 37 of the Statutes of 1902, a member had been added for Yukon Territory, so that the net effect of the changes was to keep the membership at 214 in the early years of the present century. The extremely rapid growth of the Northwest Territories, however, led to their division and admission to Confederation in 1905 as the provinces of Alberta and Saskatchewan. In the Acts admitting them—the Alberta Act (4-5 Edw. VII, c. 3) and the Saskatchewan Act (4-5 Edw. VII, c. 42)—it was provided that their representation should be readjusted on the basis of the results of the quinquennial census of 1906. The Representation Act of 1907, implementing this pledge, increased the representation of Saskatchewan from 6 to 10 and of Alberta from 4 to 7 members, thus raising the total membership of the House of Commons to 221.

The census of 1911, with its very large but very unevenly distributed increase of population, led to considerable changes in representation, enacted by the Representation Act of 1914. The representation of Ontario was reduced from 86 to 82, of Nova Scotia from 18 to 16, of New Brunswick from 13 to 11, of Prince Edward Island from 4 to 3. On the other hand, the representation of Manitoba was raised from 10 to 15, of Saskatchewan from 10 to 16, of Alberta from 7 to 12 and of British Columbia from 7 to 13. The net result was an increase of 13 members in the total membership of the House of Commons, bringing the membership to 234. However, in the following session the amendment to the British North America Act, already referred to, resulted in the retention by Prince Edward Island of her fourth member (since she had 4 senators). (See also 5 Geo. V, c. 19). The total membership, therefore, of the House of Commons in the thirteenth and fourteenth Parliaments (elected in 1917 and 1921 respectively) was 235.

As a result of the smaller increase of population shown by the census of 1921, the changes in representation were less far-reaching. Nova Scotia lost 2 members and the West gained 12, 2 of these being added to Manitoba, 5 to Saskatchewan, 4 to Alberta and 1 to British Columbia. The representation of the remaining four provinces was unchanged. Prince Edward Island retained its 4 members because of the provisions of the British North America Act of 1915, to the effect that the members of the House of Commons returned by a province shall never be fewer than its senators. Ontario, again, retained its 82 members because under subsection 4 of section 51 of the British North America Act (quoted p. 97), the proportion which its population bore to the aggregate population of the Dominion had not declined by one-twentieth. Further, by the Quebec Boundaries Extension Act of 1912, it had been stipulated that the population of the added area (Ungava) should not be included for the purpose of determining the unit of representation, so that the 1921 population of Quebec, within its 1911 boundaries, *viz.*, 2,358,412, divided by the fixed number of 65 seats for that province, became the new unit of representation, 36,283.

The number of representatives of each province elected at each of the seventeen general elections since Confederation is given in Table 7.

7.—Representation in the House of Commons as at Dominion General Elections, 1867-1930.

Province.	1867.	1872.	1874.	1878.	1882.	1887.	1891.	1896.	1900.	1904.	1908.	1911.	1917.	1921.	1925.[1]
Ontario	82	88	88	88	92	92	92	92	92	86	86	86	82	82	82
Quebec	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
Nova Scotia	19	21	21	21	21	21	21	20	20	18	18	18	16	16	14
New Brunswick	15	16	16	16	16	16	16	14	14	13	13	13	11	11	11
Manitoba	–	4	4	4	5	5	5	7	7	10	10	10	15	15	17
British Columbia	–	6	6	6	6	6	6	6	6	7	7	7	13	13	14
P.E. Island	–	–	6	6	6	6	6	5	5	4	4	4	4	4	4
Saskatchewan	–	–	–	–	–	4	4	4	4	10	10	10	16	16	21
Alberta	–	–	–	–	–						7	7	12	12	16
Yukon	–	–	–	–	–	–	–	–	–	1	1	1	1	1	1
Totals	**181**	**200**	**206**	**206**	**211**	**215**	**215**	**213**	**213**	**214**	**221**	**221**	**235**	**235**	**245**

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[1] The representation at the general elections of 1926 and 1930 was the same as in 1925.

The Unit of Representation.—While the number of members of the House of Commons has been growing fairly steadily since Confederation, the unit of representation—one sixty-fifth of the population of Quebec within its 1911 boundaries—has also been increased after each census in consequence of the expanding population of Quebec. The units of representation, as determined by the decennial censuses taken since Confederation, are as follows:—1871, 18,331 persons; 1881, 20,908; 1891, 22,901; 1901, 25,368; 1911, 30,819; 1921, 36,283, being one-sixty-fifth of the population of Quebec exclusive of Ungava.

The Representation Act, 1924.—As a result of the census of 1921, the Representation Act of 1924 (14-15 Geo. V, c. 63), was passed to readjust the representation in the House of Commons. Considerable changes were necessarily made in the boundaries of the theretofore existing constituencies, and a list of such changes was given on p. 73 of the 1924 Year Book. A complete list of the constituencies, with the voters on the list and votes polled at the general election of July 28, 1930, together with the names and addressses of those then elected to the House of Commons of the seventeenth Parliament of Canada, will be found in Table **8.** Changes occurring at subsequent by-elections to Mar. 1, 1931, are indicated in the footnotes.

8.—Electoral Districts, Voters on Lists and Votes Polled, Names and Addresses of Members of the House of Commons, as Elected at the Seventeenth General Election, July 28, 1930.

Province and Electoral District.	Population, 1921.	Voters on List.	Votes Polled.	Name of Member.	P.O. Address.
Prince Edward Island— (4 members).					
Kings	20,445	10,253	9,159	Macdonald, J. A.	Cardigan, P.E.I.
Prince	31,520	16,350	14,584	Maclean, A. E.	Summerside, P.E.I.
Queens	36,650	20,382	35,776[1]	McLure, W. C. S. Myers, J. H.	Charlottetown, P.E.I. Hampton, P.E.I.
Nova Scotia— (14 members).					
Antigonish-Guysborough	27,098	14,877	12,215	Duff, W.	Lunenburg, N.S.
Cape Breton North-Victoria	31,325	14,646	12,315	Johnstone, L. W.	Sydney Mines, N.S.
Cape Breton South	58,716	30,961	25,265	MacDonald, F.	Sydney, N.S.
Colchester	25,196	13,656	11,918	Urquhart, M. L.	Truro, N.S.
Cumberland	41,191	19,738	16,328	Smith, R. K.	Amherst, N.S.
Digby-Annapolis	37,765	19,934	16,729	Short, H. B.	Digby, N.S.
Halifax City and County	97,228	53,154	81,662[1]	Black, W. A. Quinn, F. P.	Halifax, N.S. Halifax, N.S.
Hants-Kings	43,462	24,171	21,125	Ilsley, J. L.	Kentville, N.S.
Inverness	23,808	10,847	9,656	MacDougall, I. D.	Port Hood, N.S.
Pictou	40,851	21,783	18,933	Cantley, T.	New Glasgow, N.S.
Queens-Lunenburg	43,686	24,713	19,969	Ernst, W. G.	Bridgewater, N.S.
Richmond-West Cp. Breton	17,646	9,608	7,542	MacDonald, J. A.[2]	St. Peters, N.S.
Shelburne-Yarmouth	35,865	17,674	15,070	Ralston, Hon. J. L.	Yarmouth, N.S.
New Brunswick— (11 members).					
Charlotte	21,435	12,627	9,757	Ganong, A. D.	St. Stephen, N.B.
Gloucester	38,684	18,204	15,276	Veniot, Hon. P. J.	Bathurst, N.B.
Kent	23,916	11,019	9,439	Arsenault, T.	Richibucto, N.B.
Northumberland	33,985	16,056	13,804	McDade, G. M.	Chatham, N.B.
Restigouche-Madawaska	42,977	23,932	19,771	Cormier, M. D.	Edmundston, N.B.
Royal	32,078	17,469	14,550	Jones, Hon. G. B.	Apohaqui, N.B.
Saint John-Albert	69,093	37,067	50,121[1]	MacLaren, M. Bell, T.	Saint John, N.B. Saint John, N.B.
Victoria-Carleton	33,900	18,635	14,480	Smith, B. F.	East Florenceville, N.B.
Westmoreland	53,387	29,668	24,286	Price, O. B.	Moncton, N.B.
York-Sunbury	38,421	22,329	14,793	Hanson, R. B.	Fredericton, N.B.

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[1] Each voter could vote for two candidates.

[2] Mr. J. A. MacDonald having accepted an office of emolument under the Crown, Hon. E. N. Rhodes was elected by acclamation Sept. 2, 1930.

8.—Electoral Districts, Voters on Lists and Votes Polled, Names and Addresses of Members of the House of Commons, as Elected at the Seventeenth General Election, July 28, 1930—continued.

Province and Electoral District.	Population, 1921.	Voters on List.	Votes Polled.	Name of Member.	P.O. Address.
Quebec—(65 members).					
Argenteuil	17,165	9,649	8,703	Perley, Hon. Sir Geo.	Ottawa, Ont.
Bagot	18,035	7,917	7,174	Dumaine, C.	Upton, Que.
Beauce	52,701	23,745	18,784	Lacroix, E.	St-George-de-Beauce, Que.
Beauharnois	19,888	11,238	9,797	Raymond, M.	Outremont, Que.
Bellechasse	21,190	9,308	7,617	Boulanger, O. L.	Quebec, Que.
Berthier-Maskinongé	36,762	17,546	14,132	Barrette, J. A.	St-Barthélémi, Que.
Bonaventure	29,092	14,051	11,822	Marcil, Hon. C.	Ottawa, Ont.
Brome-Missisquoi	31,180	16,916	14,732	Pickel, F. H.	Sweetsburg, Que.
Chambly-Verchères	34,643	20,267	17,014	Duranleau, A.	Montreal, Que.
Champlain	47,852	22,460	19,199	Baribeau, J-L.	Ste-Geneviève-de-Batiscan, Que.
Charlevoix-Saguenay	46,366	23,028	19,063	Casgrain, P. F.	Westmount, Que.
Chateauguay-Huntingdon	26,731	13,212	11,446	Moore, J. C.	Huntingdon, Que.
Chicoutimi	37,578	23,622	20,539	Dubuc. J. E. A.	Chicoutimi, Que.
Compton	32,816	15,263	13,153	Gobeil, S.	La Patrie, Que.
Dorchester	29,563	13,270	11,266	Gagnon, O.	Quebec, Que.
Drummond-Arthabaska	44,372	23,166	19,123	Girouard, W.	Arthabaska, Que.
Gaspé	40,375	19,456	16,327	Brasset, M.	Percé, Que.
Hull	39,180	22,790	18,586	Fournier, A.	Hull, Que.
Joliette	25,913	12,721	10,964	Ferland, C-E.	Joliette, Que.
Kamouraska	22,014	10,790	8,713	Bouchard, G.	Ste-Anne-de-la-Pocatière, Que.
Labelle	35,927	[1]	[1]	Bourassa, H.	Outremont, Que.
Lake St. John	35,539	19,181	16,694	Duguay, J. L.	St-Joseph-d'Alma, Que.
Laprairie-Napierville	20,065	9,152	8,345	Dupuis, V.	Laprairie, Que.
L'Assomption-Montcalm	28,318	14,061	11,299	Séguin, P. A.	L'Assomption, Que.
Laval-Two Mountains	28,314	13,733	12,345	Sauvé, A.	Saint-Eustache, Que.
Lévis	33,323	16,677	14,074	Fortin, E.	Lévis, Que.
L'Islet	17,859	8,535	6,804	Fafard, J. F.	L'Islet, Que.
Lotbinière	21,837	10,381	8,989	Verville, J. A.	St-Flavien, Que.
Matane	36,303	18,249	14,805	LaRue, J. E. H.	Amqui, Que.
Mégantic	33,633	15,889	13,461	Roberge, E	Laurierville, Que.
Montmagny	21,997	9,405	7,550	Lavergne, A.	Quebec, Que.
Nicolet	29,695	13,680	11,487	Dubois, L.	Gentilly, Que.
Pontiac	45,682	29,732	21,918	Belec, C.	Fort Coulonge, Que.
Portneuf	34,452	18,418	15,175	Desrochers, J.	St-Raymond, Que.
Quebec-Montmorency	31,000	16,673	14,592	Dorion, C. N.	Courville, Que.
Quebec East	40,772	27,049	21,611	Lapointe, Hon. E.	Ottawa, Ont.
Quebec South	25,875	19,820	14,881	Power, C. G.	Quebec, Que.
Quebec West	37,562	23,891	20,101	Dupré, M.	Quebec, Que.
Richelieu	19,548	10,608	8,938	Cardin, Hon. P. J. A.	Sorel, Que.
Richmond-Wolfe	42,248	19,391	16,998	Laflèche, J. F.	Windsor Mills, Que.
Rimouski	27,520	13,564	11,043	Fiset, Sir E.	Rimouski, Que.
St-Hyacinthe-Rouville	36,754	20,492	16,187	Fontaine, J. T. A.	St-Hyacinthe, Que.
St. Johns-Iberville	23,518	14,346	12,099	Rhéaume, M.	St. Johns, Que.
Shefford	25,644	14,013	12,648	Tétreault, J. E.	Granby, Que.
Sherbrooke	30,786	19,865	16,700	Howard, C. B.	Sherbrooke, Que.
Stanstead	23,380	12,998	11,351	Hackett, J. T.	Stanstead, Que.
Témiscouata	44,310	20,706	17,584	Pouliot, J. F.	Rivière-du-Loup, Que.
Terrebonne	33,908	18,392	15,517	Parent, E.	Ste-Agathe-des-Monts, Que.
Three Rivers-St-Maurice	50,845	32,978	26,110	Bettez, A.[2]	Three Rivers, Que.
Vaudreuil-Soulanges	21,620	10,429	8,500	Thauvette, J.	Vaudreuil, Que.
Wright	25,867	12,927	11,020	Perras, F. W.	Gracefield, Que.
Yamaska	18,507	7,926	7,068	Boucher, A.	Pierreville, Que.
Montreal Island—					
Cartier	48,869	25,442	12,262	Jacobs, S. W.	Montreal, Que.
Hochelaga	67,836	43,728	28,652	St-Père, E. C.	Montreal, Que.
Jacques Cartier	70,856	61,453	44,801	Laurin, J. G. P.	Montreal, Que.
Laurier-Outremont	67,682	45,968	27,310	Mercier, J. A.	Montreal, Que.
Maisonneuve	65,646	50,593	34,196	Robitaille, C.	Montreal, Que.
Mount Royal	39,487	48,515	26,590	White, R. S.	Montreal, Que.
St. Ann	54,834	31,256	22,770	Sullivan, J. A.	Montreal, Que.
St. Antoine	33,338	19,956	12,639	Bell, L. G.	Montreal, Que.
St. Denis	75,475	69,249	45,396	Denis, J. A.	Montreal, Que.
St. Henri	44,372	23,718	17,722	Mercier, P.	Montreal, Que.
St. James	54,741	32,776	19,721	Rinfret, Hon. F.	Montreal, Que.
St. Lawrence-St. George	37,688	19,646	10,479	Cahan, C. H.	Montreal, Que.
St. Mary	63,381	35,762	22,957	Deslauriers, H.	Montreal, Que.

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[1] Acclamation. [2] Mr. Bettez died Jan. 4, 1931.

8.—Electoral Districts, Voters on Lists and Votes Polled, Names and Addresses of Members of the House of Commons, as Elected at the Seventeenth General Election, July 28, 1930—continued.

Province and Electoral District.	Population, 1921.	Voters on List.	Votes Polled.	Name of Member.	P.O. Address.
Ontario—(82 members).					
Algoma East	37,054	17,879	14,251	Nicholson, G. B.	Chapleau, Ont.
Algoma West	35,509	17,893	13,702	Simpson, T. E.	Sault Ste. Marie, Ont.
Brant	20,085	11,538	9,497	Smoke, F.	Paris, Ont.
Brantford City	33,292	19,018	15,309	Ryerson, R. E.	Brantford, Ont.
Bruce North	20,872	12,554	11,185	Malcolm, Hon. J.	Kincardine, Ont.
Bruce South	23,413	13,339	10,602	Hall, W. A.	Walkerton, Ont.
Carleton	32,673	20,493	16,793	Garland, W. F.	Ottawa, Ont.
Dufferin-Simcoe	40,225	20,372	13,790	Rowe, W. E.	Newton Robinson, Ont.
Durham	24,629	16,338	12,068	Bowen, F. W.	Newcastle, Ont.
Elgin West	35,413	21,896	18,680	Hepburn, M. F.	St. Thomas, Ont.
Essex East	25,283	21,097	16,453	Morand, Hon. R. D.	Windsor, Ont.
Essex South	29,375	17,996	14,609	Gott, E. J.	Amherstburg, Ont.
Essex West	49,418	43,231	27,993	Robinson, S. C.	Walkerville, Ont.
Fort William	27,851	14,412	10,861	Manion, Hon. R. J.	Fort William, Ont.
Frontenac-Addington	30,347	17,058	11,537	Spankie, W.	Wolfe Island, Ont.
Glengarry	20,518	10,615	8,948	McGillis, A.	Williamstown, Ont.
Grenville-Dundas	33,953	20,645	14,612	Casselman, A. C.	Prescott, Ont.
Grey North	30,667	18,899	15,068	Porteous, V. C.	Owen Sound, Ont.
Grey Southeast	28,384	16,912	13,028	Macphail, Agnes C.	Ceylon, Ont.
Haldimand	21,287	12,835	11,064	Senn, M. C.	Caledonia, Ont.
Halton	24,899	16,035	12,826	Anderson, R. K.	Milton, Ont.
Hamilton East	54,233	36,829	21,475	Rennie, G. S.[2]	Hamilton, Ont.
Hamilton West	53,254	30,928	17,335	Bell, C. W.	Hamilton, Ont.
Hastings-Peterborough	28,999	14,804	10,034	Embury, A. T.	Bancroft, Ont.
Hastings South	37,504	22,563	18,548	Tummon, W. E.	Tweed, Ont.
Huron North	23,540	14,488	12,116	Spotton, Geo.	Wingham, Ont.
Huron South	23,548	14,146	12,035	McMillan, T.	Seaforth, Ont.
Kenora-Rainy River	26,315	15,661	12,178	Heenan, Hon. P.	Kenora, Ont.
Kent	50,638	29,006	23,051	Rutherford, J. W.	Chatham, Ont.
Kingston City	24,104	14,569	11,164	Ross, A. E.	Kingston, Ont.
Lambton East	28,271	16,391	12,622	Sproule, J. T.	Oil Springs, Ont.
Lambton West	30,418	18,957	15,236	Gray, R. W.	Sarnia, Ont.
Lanark	32,993	20,816	16,815	Thompson, T. A.	Almonte, Ont.
Leeds	34,909	20,987	15,699	Stewart, H. A.	Brockville, Ont.
Lincoln	48,625	30,802	21,076	Chaplin, Hon. J. D.	St. Catharines, Ont.
London	53,838	37,465	23,810	White, J. F.	London, Ont.
Middlesex East	27,994	19,170	14,188	Boyes, F.	Dorchester Station, Ont.
Middlesex West	25,033	14,138	11,204	Elliott, Hon. J. C.	Strathroy, Ont.
Muskoka-Ontario	34,859	20,447	14,740	McGibbon, P.	Bracebridge, Ont.
Nipissing	49,965	32,193	23,683	Hurtubise, J. R.	Sudbury, Ont.
Norfolk-Elgin	35,937	23,134	18,902	Taylor, W. H.	Scotland, Ont.
Northumberland	30,512	18,290	16,175	Fraser, W. A.	Trenton, Ont.
Ontario	31,074	24,952	19,843	Moore, W. H.	Dunbarton, Ont.
Ottawa	93,740	61,535	97,369[1]	Chevrier, E. R. E. Ahearn, T. F.	Ottawa, Ont. Ottawa, Ont.
Oxford North	24,527	15,405	13,428	Sutherland, D. M.	Woodstock, Ont.
Oxford South	22,235	13,660	11,388	Cayley, T. M.	Norwich, Ont.
Parkdale	59,545	37,242	17,566	Spence, D.	Toronto, Ont.
Parry Sound	27,022	13,169	9,918	Arthurs, J.	Parry Sound, Ont.
Peel	23,896	17,077	13,995	Charters, S.	Brampton, Ont.
Perth North	32,461	20,249	16,610	Wright, D. M.	Stratford, Ont.
Perth South	18,382	11,099	9,428	Sanderson, F. G.	St. Marys, Ont.
Peterborough West	34,054	21,575	17,608	Peck, E. A.	Peterborough, Ont.
Port Arthur-Thunder Bay	27,158	14,364	10,859	Cowan, D. J.	Port Arthur, Ont.
Prescott	26,478	12,498	8,927	Bertrand, E. O.	L'Orignal, Ont.
Prince Edward-Lennox	25,843	15,786	12,414	Weese, J. A.	Belleville, Ont.
Renfrew North	27,079	14,571	11,086	Cotnam, I. D.	Pembroke, Ont.
Renfrew South	27,061	14,534	12,595	Maloney, M. J.	Eganville, Ont.
Russell	43,413	21,807	17,591	Goulet, A.	Bourget, Ont.
Simcoe East	37,122	19,442	15,669	Thompson, A. B.	Penetanguishene, Ont.
Simcoe North	22,100	16,125	13,791	Simpson, J. T.	Barrie, Ont.
Stormont	25,134	17,694	15,318	Shaver, F. T.	Aultsville, Ont.
Timiskaming North	26,028	24,879	16,773	Bradette, J. A.	Cochrane, Ont.
Timiskaming South	31,747	21,892	16,024	Gordon, W. A.	Haileybury, Ont.
Toronto East	67,735	40,630	19,835	Ryckman, Hon. E. B.	Toronto, Ont.
Toronto East Centre	69,717	37,971	16,514	Matthews, R. C.	Toronto, Ont.
Toronto High Park	50,856	36,245	17,661	Anderson, A. J.	Toronto, Ont.
Toronto Northeast	58,319	63,635	27,742	Baker, R. L.	Toronto, Ont.

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[1] Each voter could vote for two candidates.

[2] Mr. G. S. Rennie died Oct. 13, 1930.

8.—Electoral Districts, Voters on Lists and Votes Polled, Names and Addresses of Members of the House of Commons, as Elected at the Seventeenth General Election, July 28, 1930.—continued.

Province and Electoral District.	Population, 1921.	Voters on List.	Votes Polled.	Name of Member.	P.O. Address.
Ontario—concluded.					
Toronto Northwest	61,484	42,875	19,902	MacNicol, J. R.	Toronto, Ont.
Toronto Scarborough	49,749	50,372	23,321	Harris, J. H.	Toronto, Ont.
Toronto South	49,291	18,005	7,681	Geary, G. R.	Toronto, Ont.
Toronto West Centre	59,197	31,136	17,261	Factor, S.	Toronto, Ont.
Victoria	33,995	19,725	15,342	Stinson, T. H.	Lindsay, Ont.
Waterloo North	41,698	28,694	22,580	Euler, Hon. W. D.	Kitchener, Ont.
Waterloo South	33,568	20,922	13,984	Edwards, A. McKay	Galt, Ont.
Welland	66,668	41,568	28,831	Pettit, G. H.	Welland, Ont.
Wellington North	19,833	11,826	9.365	Blair, J. K.	Arthur, Ont.
Wellington South	34,327	22,515	16,818	Guthrie, Hon. H.	Guelph, Ont.
Wentworth	46,080	34,655	24,782	Wilson, G. C.	Dundas, Ont.
York North	36,222	23,801	20,583	Lennox, T. H.	Toronto, Ont.
York South	27,895	31,010	17,296	McGregor, R. H.	Toronto, Ont.
York West	61,655	62,645	32,300	Lawson, J. E.	Toronto, Ont.
Manitoba—(17 members).					
Brandon	38,500	20,438	16,451	Beaubier, D. W.	Brandon, Man.
Dauphin	38,607	16,842	13.621	Bowman, J. L.	Dauphin, Man.
Lisgar	30,604	13,217	10,200	Brown, J. L.	Pilot Mound, Man.
Macdonald	31,877	15,152	11,784	Weir, W. G.	Rosebank, Man.
Marquette	34,482	18,051	14,742	Mullins, H. A.	Winnipeg, Man.
Neepawa	29,941	13,249	10,855	Murphy, T. G.	Neepawa, Man.
Nelson	20,868	11,050	8,873	Stitt, B. M	The Pas, Man.
Portage la Prairie	35,461	15,738	12,641	Burns, W. H.	Portage la Prairie.
Provencher	29,439	11,879	7,905	Beaubien, A. L.	St. Jean Baptiste, Man.
Selkirk	41,265	19,287	14,454	Stitt, J. H.	Winnipeg, Man.
Souris	24,439	14,296	12,102	Willis, E. F.	Boissevain, Man.
Springfield	30,836	16,614	11,082	Hay, T.	Gonor, Man.
St. Boniface	35,429	20,775	13,738	Howden, J. P.	St. Boniface, Man.
Winnipeg North	52,473	24,781	14,313	Heaps, A. A.	Winnipeg, Man.
Winnipeg North Centre	39,142	22,649	10,955	Woodsworth, J. S.	Winnipeg, Man.
Winnipeg South	32,943	27,959	20,275	Rogers, Hon. R.	Winnipeg, Man.
Winnipeg South Centre	63,812	46,112	31,201	Kennedy, W. W.	Winnipeg, Man.
Saskatchewan—(21 members).					
Assiniboia	34,789	18,867	15,723	McKenzie, R.	Stoughton, Sask.
Humboldt	37,128	18,069	14,079	Totzke, A. F.	Vonda, Sask.
Kindersley	28,997	16,465	12,570	Carmichael, A. M.	Kindersley, Sask.
Last Mountain	34,054	15,215	12,946	Butcher, H.	Punnichy, Sask.
Long Lake	32,308	14,640	12,514	Cowan, W. D.	Regina, Sask.
Mackenzie	34,669	17,652	13,592	Campbell, M. N.	Pelly, Sask.
Maple Creek	38,586	20,799	17,449	Swanston, J. B.	Shaunavon, Sask.
Melfort	30,716	22,914	17,587	Weir, Robert	Weldon, Sask.
Melville	36,842	16,677	14,273	Motherwell, Hon. W. R.	Abernethy, Sask.
Moose Jaw	42,243	21,825	17,704	Beynon, W. A.	Moose Jaw, Sask.
North Battleford	34,451	20,811	15,566	McIntosh, C. R.	North Battleford, Sask.
Prince Albert	39,126	20,676	17,464	Mackenzie King, Rt. Hon. W. L.	Ottawa, Ont.
Qu'Appelle	33,003	17,397	14,851	Perley, E. D.	Wolseley, Sask.
Regina	40,625	30,707	25,430	Turnbull, F. W.	Regina, Sask.
Rosetown	29,341	15,286	12,448	Loucks, W. J.	Delisle, Sask.
Saskatoon	40,712	28,850	21,566	MacMillan, F. R.	Saskatoon, Sask.
South Battleford	35,070	20,026	16,223	Vallance, J.	Onward, Sask.
Swift Current	40,305	17,775	14,010	Bothwell, C. E.	Swift Current.
Weyburn	37,431	17,523	14,474	Young, E. J.	Dummer, Sask.
Willow Bunch	39,257	22,638	18,799	Donnelly, T. F.	Kincaid, Sask.
Yorkton	37,857	15,388	12,384	McPhee, G. W.	Yorkton, Sask.
Alberta—(16 members).					
Acadia	39,974	[1]	[1]	Gardiner, R.	Excel, Alta.
Athabaska	37,214	19,617	11,989	Buckley, J. F.	St. Paul, Alta.
Battle River	36,737	19,054	10,900	Spencer, H. E.	Edgerton, Alta.
Bow River	34,323	14,483	10,523	Garland, E. D.	Rowley, Alta.
Calgary East	38,076	25,355	17,442	Stanley, G. D.	Calgary, Alta.
Calgary West	40,122	27,669	19,879	Bennett, Hon. R. B.	Calgary, Alta.
Camrose	38,274	17,462	10,970	Lucas, W. T.	Lougheed, Alta.

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[1] Acclamation.

8.—Electoral Districts, Voters on Lists and Votes Polled, Names and Addresses of Members of the House of Commons, as Elected at the Seventeenth General Election, July 28, 1930—concluded.

Province and Electoral District.	Population, 1921.	Voters on List.	Votes Polled.	Name of Member.	P.O. Address.
Alberta—concluded.					
Edmonton East	36,263	22,466	15,007	Bury, A. U. G.	Edmonton, Alta.
Edmonton West	38,748	25,365	18,275	Stewart, Hon. C. S.	Edmonton, Alta.
Lethbridge	38,079	17,555	12,579	Stewart, J. S.	Lethbridge, Alta.
Macleod	33,826	18,844	13,093	Coote, G. G.	Nanton, Alta.
Medicine Hat	36,395	14,071	9,205	Gershaw, F. W.	Medicine Hat, Alta.
Peace River	39,727	31,741	18,732	Kennedy, D. McB.	Waterhole, Alta.
Red Deer	35,318	18,182	10,901	Speakman, A.	Red Deer, Alta.
Vegreville	30,593	15,001	10,137	Luchkovich, M.	Vegreville, Alta.
Wetaskiwin	34,785	17,610	12,003	Irvine, W.	Bentley, Alta.
British Columbia—(14 members).					
Cariboo	39,834	22,197	16,889	Fraser, J. A.	Quesnel, B.C.
Comox-Alberni	21,378	10,751	8,963	Neill, A. W.	Alberni, B.C.
Fraser Valley	28,811	15,802	13,385	Barber, H. J.	Chilliwack, B.C.
Kootenay East	19,137	10,834	9,212	McLean, M. D.[1]	Michel, B.C.
Kootenay West	30,502	17,911	14,150	Esling, W. K.	Rossland, B.C.
Nanaimo	48,010	28,593	20,598	Dickie, C. H.	Duncan, B.C.
New Westminster	45,982	32,647	23,970	Reid, T.	Newton (Surrey Municipality), B.C
Skeena	28,934	11,770	9,733	Hanson, O.	Prince Rupert, B.C.
Vancouver-Burrard	56,338	45,220	31,878	Hanbury, W.	Vancouver, B.C.
Vancouver Centre	60,879	33,483	22,244	Mackenzie, Hon. I.	Vancouver, B.C.
Vancouver North	24,215	16,737	12,661	Munn, A. E.	Vancouver, B.C.
Vancouver South	46,137	47,226	31,728	MacInnis, A.	Vancouver, B.C.
Victoria	38,727	22,151	14,740	Plunkett, D'A. B.	Victoria, B.C.
Yale	35,698	18,004	13,480	Stirling, G.	Kelowna, B.C.
Yukon Territory—(1 member).					
Yukon	4,157	1,719	1,408	Black, G.	Dawson, Yukon.

[1] Mr. M. D. McLean having accepted an office of emolument under the Crown, Hon. H. H. Stevens was elected by acclamation, Aug. 25, 1930.

Subsection 5.—The Dominion Franchise.[1]

It was provided by the B.N.A. Act, 1867, that, until otherwise directed by Parliament, elections to the House of Commons should be governed by the electoral laws of the several provinces. The qualifications of electors throughout the Dominion consequently remained the same for both Dominion and provincial elections until, in 1885, Parliament legislated on the subject by passing the Electoral Franchise Act (1885, c. 40). That Act defined a uniform qualification for voters throughout Canada for Dominion purposes, the basis of this new franchise being the ownership or occupation of land of a specified value, although the sons of owners, and particularly farmers' sons, were given the right to vote on special conditions; each province, of course, continued separately to define the qualifications of voters at provincial elections. This Dominion franchise remained in force for thirteen years, but between 1898 and 1920, under the Franchise Act of the former year (1898, c. 14), the provincial franchises were again made applicable at Dominion elections, except that on the constitution of the provinces of Alberta and Saskatchewan it was provided that manhood suffrage, which had already been adopted for the Northwest Territories under an Act to amend the N.W.T.

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[1] Contributed by Oliver Mowat Biggar, K.C., formerly Chief Electoral Officer.

Act (1895, c. 16), should continue in force for Dominion purposes independently of any action that might be taken by the newly elected Legislatures of these two provinces (R.S.C. 1906, c. 6, ss. 31-65). In the other provinces the rules as to the qualification of voters varied from time to time. In Manitoba manhood suffrage had been adopted in 1888 (1888, c. 2), and the franchise was extended to women on the same terms as to men in 1916 (1916, c. 36). Alberta and Saskatchewan, on their establishment as provinces, continued the previously existing manhood suffrage and both extended the franchise to women on the same terms as to men in 1916 (Alta. 1916, c. 5; Sask. 1916, c. 37). British Columbia adopted manhood suffrage in 1904 (1903-1904, c. 7), Ontario in 1907 (7 Edw. VII, c. 5), and New Brunswick in 1916 (6 Geo. V, c. 16); in British Columbia (1917, c. 23) and in Ontario (7 Geo. V, c. 5), the franchise was extended equally to women in 1917, and in New Brunswick this was done in 1919 (9 Geo. V, c. 63). In Quebec and Prince Edward Island the provincial franchises throughout the period in question were not so wide; in neither were women admitted to vote and certain property or other special qualifications were required in each. A property qualification was also required in Nova Scotia until 1920 (10-11 Geo. V, c. 49), but between 1918 and 1920 men and women had voted on equal terms (9 Geo. V, c. 3). The adoption of the provincial franchise laws for Dominion purposes was temporarily modified by the War Times Elections Act (1917, c. 39), which admitted certain near female relatives of serving soldiers and sailors to vote at Dominion elections, and three years later, on the adoption of a New Dominion Elections Act (1920, c. 46), the provincial franchises were again wholly abandoned and a new electoral qualification was established for Dominion elections throughout Canada. Subject to a modification of the usual rule as to changes of nationality, which was amended in 1921 (1921, c. 29, s. 3) and repealed in 1922 (1922, c. 20, s. 1), the right to vote was conferred by the new Act upon all British subjects, male and female, of 21 years and upwards, who had resided in Canada for a year, and for two months in the electoral district in which they desired to vote, this last restriction having been removed two years later (1922, c. 20), so far as it applied to general elections. The only adult British subjects who now are denied the right to vote are prisoners undergoing punishment, lunatics in institutions, Indians within the meaning of the Indian Act, and not having served in the Great War, judges appointed by the Dominion Government, persons paid for work on behalf of a candidate in relation to the election, persons expressly disfranchised for corrupt or illegal practices and certain persons who by reason of their race are not permitted, under the law of the province in which they live, to vote at a provincial election in that province. The effect of this last exception is to exclude from the franchise only such Chinese, Japanese and East Indians as reside in British Columbia and did not serve in the Canadian forces during the war, and such Chinese as reside in the province of Saskatchewan and did not so serve. (See also R.S.C. 1927, c. 53, The Dominion Elections Act, as amended by c. 40 of 1929 and c. 16 of 1930.)

The Use of the Franchise.—The number of voters on the lists and the number of votes polled at the general elections of 1921, 1925, 1926 and 1930, are given in Table **9.**

9.—Number of Voters and Votes Polled in the General Elections of 1921, 1925, 1926 and 1930.

Province.	Number of Voters on the List.				Number of Votes Polled.			
	1921.	1925.	1926.	1930.	1921.	1925.	1926.	1930.
Prince Edward Is..	46,879	45,454	46,208	46,985	52,556[1]	49,558[1]	55,569[1]	59,519[1]
Nova Scotia.......	294,473	277,073	273,712	275,762	260,860[2]	222,883[2]	229,846[2]	268,727[2]
New Brunswick...	204,575	211,190	210,028	207,006	156,263[3]	152,652[3]	162,777[3]	186,277[3]
Quebec............	1,056,792	1,124,998	1,133,633	1,351,585	779,951	805,492	809,295	1,029,480
Ontario............	1,738,020	1,821,906	1,847,512	1,894,624	1,139,635[4]	1,223,027[4]	1,226,267[4]	1,364,960[4]
Manitoba..........	255,143	250,505	257,244[5]	328,089	173,941	171,124	198,028[5]	235,192
Saskatchewan.....	333,613	346,791	353,471	410,400	225,236	197,246	246,460	331,652
Alberta............	273,706	283,529	279,463	304,475	173,824	161,423	157,993	201,635
British Columbia..	230,451	244,352	262,262	333,326	156,012	183,748	185,345	243,631
Yukon.............	1,658	1,621	1,848	1,719	1,388	1,259	1,482	1,408
Totals........	**4,435,310**	**4,607,419**	**4,665,381**[5]	**5,153,971**[6]	**3,119,306**	**3,168,412**	**3,273,062**[5]	**3,922,481**[6]

[1] Each voter in the double member constituency of Queens County, P.E.I., had two votes; in 1930, 20,382 voters on the list cast 35,776 votes. [2] Each voter in the double member constituency of Halifax, N.S., had two votes; in 1930, 53,154 voters on the list cast 81,662 votes. [3] Each voter in the double member constituency of St. John-Albert, N.B., had two votes; in 1930, 37,067 voters on the list cast 50,121 votes. [4] Each voter in the double member constituency of Ottawa, Ont., had two votes; in 1930, 61,535 voters on the list cast 97,369 votes. [5] Not including one electoral district in which the return was by acclamation. [6] Not including two electoral districts in which the returns were by acclamation.

Section 2.—Provincial Governments.

Table **10** gives the names and areas, as in 1929, of the several provinces, territories and provisional districts of the Dominion, together with the dates of their creation or admission into the Confederation and the legislative process by which this was effected.

10.—Provinces and Territories of Canada, with Present Areas, Dates of Admission to Confederation and Legislative Process by which Admission was Effected.

Province, Territory or District.	Date of Admission or Creation.	Legislative Process.	Present Area (square miles).		
			Land.	Water.	Total.
Ontario............	July 1, 1867	Act of Imperial Parliament — The British North America Act, 1867 (30-31 Vict., c. 3), and Imperial Order in Council of May 22, 1867.	363,282	49,300	412,582[1]
Quebec............	" 1, 1867		571,004	23,430	594,434[2]
Nova Scotia.......	" 1, 1867		20,743	685	21,428
New Brunswick...	" 1, 1867		27,710	275	27,985
Manitoba..........	" 15, 1870	Manitoba Act, 1870 (33 Vict., c. 3) and Imperial Order in Council, June 23, 1870..........................	224,777	27,055	251,832[3]
British Columbia..	" 20, 1871	Imperial Order in Council, May 16, 1871	349,970	5,885	355,855
Prince Edward Is..	" 1, 1873	Imperial Order in Council, June 26, 1873	2,184	–	2,184
Saskatchewan.....	Sept. 1, 1905	Saskatchewan Act, 1905 (4-5 Edw. VII, c. 42)..............................	237,975	13,725	251,700[4]
Alberta............	" 1, 1905	Alberta Act, 1905 (4-5 Edw. VII, c. 3).	248,800	6,485	255,285[4]
Yukon.............	June 13, 1898	Yukon Territory Act, 1898 (61 Vict., c. 6)..............................	205,346	1,730	207,076
Mackenzie.........	Jan. 1, 1920	Order in Council, Mar. 16, 1918......	493,225	34,265	527,490[5]
Keewatin..........	" 1, 1920		218,460	9,700	228,160[5]
Franklin...........	" 1, 1920		546,532	7,500	554,032[5]
Totals....			**3,510,008**	**180,035**[5]	**3,690,043**

[1] The area of Ontario was extended by the Ontario Boundaries Extension Act, 1912 (2 Geo. V, c. 40).

[2] Extended by Quebec Boundaries Extension Act, 1912 (2 Geo. V, c. 45), and diminished in consequence of the award of the Judicial Committee of the British Privy Council (Mar. 1, 1927), whereby some 112,400 square miles of territory, formerly considered as part of Quebec, were assigned to Newfoundland.

[3] Extended by Extension of Boundaries of Manitoba Act, 1881, and Manitoba Boundaries Extension Act, 1912 (2 Geo. V, c. 32).

[4] Alberta and Saskatchewan now cover approximately the area formerly comprised in the districts of Assiniboia, Athabaska, Alberta and Saskatchewan, established May 17, 1882, by minute of Canadian P.C., concurred in by Dominion Parliament and Order in Council of Oct. 2, 1895.

[5] By an Order in Council of June 23, 1870, Rupert's Land, acquired under the Rupert's Land Acts of 1867 and 1868, and the undefined Northern Territories were admitted into the Confederation. The original Northwest Territories, mentioned in the Manitoba Act, 1870, were established by the Northwest Territories Act, 1880 (43 Vict., c. 25), the district of Keewatin having been previously defined by an Act of the Dominion Parliament (39 Vict., c. 21). The provisional districts of Yukon, Mackenzie, Franklin and Ungava were defined in an Order in Council of Oct. 2, 1895, their boundaries being changed by Order in Council of Dec. 18, 1897. By Order in Council of July 24, 1905, the area of Keewatin, not included in the Northwest Territories, was annexed to the latter from Sept. 1, 1905 By the Extension of Boundaries Act, 1912, Ungava was made a part of the province of Quebec, and the remaining area of the Northwest Territories south of 60° N. latitude was divided between Manitoba and Ontario.

In each of the provinces the King is represented by a Lieutenant-Governor appointed by the Governor General in Council, and governing with the advice and assistance of his Ministry or Executive Council, which is responsible to the Legislature and resigns office when it ceases to enjoy the confidence of that body. The Legislatures of all the provinces with the exception of Quebec are now unicameral,[1] consisting of a Legislative Assembly elected by the people. In Quebec there is a Legislative Council as well as a Legislative Assembly. For detailed description of the Provincial Governments, the reader is referred to pp. 101-115 of the 1922-23 edition of the Year Book.

The Lieutenant-Governors of the provinces, together with the names of the Ministers of the present administrations, are given in Table **11.** Details regarding Provincial Legislatures and Ministries since Confederation were given on pp. 75-84 of the 1924 Year Book.

11.—Lieutenant-Governors of Provinces, 1867-1930, and Present Ministries.

NOTE.—The Lieutenant-Governor of a province is styled "His Honour" and is also styled "Honourable" throughout his life.

PRINCE EDWARD ISLAND.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
W. C. F. Robinson	June 10, 1873	D. A. McKinnon	Oct. 3, 1904
Sir Robert Hodgson	Nov. 22, 1873	Benjamin Rogers	June 1, 1910
Thomas H. Haviland	July 14, 1879	A. C. Macdonald	June 2, 1915
Andrew Archibald Macdonald	Aug. 1, 1884	Murdock McKinnon	Sept. 3, 1919
Jedediah S. Carvell	Sept. 21, 1889	Frank R. Heartz	Sept. 8, 1924
Geo. W. Howlan	Feb. 21, 1894	Charles Dalton	Nov. 29, 1930
P. A. MacIntyre	May 13, 1899		

SIXTEENTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier, President of the Council, Provincial Secretary-Treasurer and Minister of Agriculture	Hon. W. M. Lea	May 20, 1930
Attorney and Advocate-General	Hon. Thane A. Campbell, M.A	May 22, 1930
Minister of Public Works	Hon. J. P. McIntyre	May 20, 1930
Minister without Portfolio	Hon. J. Blanchard	May 20, 1930
Minister without Portfolio	Hon. B. W. LePage	May 20, 1930
Minister without Portfolio	Hon. W. B. Butler	May 20, 1930
Minister without Portfolio	Hon. J. F. McNeill, M.D	May 20, 1930
Minister without Portfolio	Hon. P. Sinclair	May 20, 1930
Minister without Portfolio	Hon. T. V. Grant, M.D	May 20, 1930
Minister without Portfolio	Hon. P. A. Scully	Aug. 4, 1930

NOVA SCOTIA.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
Lieut.-Gen. Sir W. F. Williams	July 1, 1867	Alfred G. Jones	Aug. 7, 1900
Major-Gen. Sir C. Hastings Doyle	Oct. 18, 1867	Duncan C. Fraser	Mar. 27, 1906
Lieut.-Gen. Sir C. Hastings Doyle	Jan. 31, 1868[2]	James D. MacGregor	Oct. 18, 1910
Sir E. Kenny (acting)	May 31, 1870	David MacKeen	Oct. 19, 1915
Joseph Howe	May 1, 1873	McCallum Grant	Nov. 29, 1916
Sir A. G. Archibald	July 4, 1873	McCallum Grant	Mar. 21, 1922[2]
Matthew Henry Richey	July 4, 1883	J. Robson Douglas	Jan. 23, 1925
A. W. McLelan	July 9, 1888	James C. Tory	Sept. 24, 1925
Sir Malachy Bowes Daly	July 11, 1890	Frank Stanfield	Dec. 2, 1930
Sir Malachy Bowes Daly	July 29, 1895[2]		

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[1] The Legislative Council of Nova Scotia ceased to exist in 1928. [2] Second term.

11.—Lieutenant-Governors of Provinces, 1867-1930, and Present Ministries—con.

NOVA SCOTIA—concluded.

ELEVENTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier and President of Council	Col. the Hon. G. S. Harrington	Aug. 11, 1930
Minister of Public Works and Mines	Col. the Hon. G. S. Harrington	Aug. 11, 1930
Attorney-General	Hon. W. L. Hall	Aug. 11, 1930
Provincial Secretary	Hon. John Doull	Aug. 11, 1930
Minister of Agriculture	Hon. O. P. Goucher	Aug. 11, 1930
Minister of Highways	Hon. P. C. Black	Aug. 11, 1930
Minister without Portfolio	Hon. J. F. Fraser	Aug. 11, 1930
Minister without Portfolio	Hon. Geo. H. Murphy, M.D., C.M.	Aug. 11, 1930
Minister without Portfolio	Hon. Albert Parsons	Aug. 11, 1930

NEW BRUNSWICK.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
Major-Gen. Sir C. Hastings Doyle	July 1, 1867	A. R. McClelan	Dec. 9, 1896
Col. F. P. Harding	Oct. 18, 1867	Jabez B. Snowball	Feb. 5, 1902
L. A. Wilmot	July 14, 1868	L. J. Tweedie	Mar. 2, 1907
Samuel Leonard Tilley	Nov. 5, 1873	Josiah Wood	Mar. 6, 1912
E. Baron Chandler	July 16, 1878	G. W. Ganong	June 29, 1916
Robert Duncan Wilmot	Feb. 11, 1880	William Pugsley	Nov. 6, 1917
Sir Samuel Leonard Tilley	Oct. 31, 1885	William F. Todd	Feb. 24, 1923
John Boyd	Sept. 21, 1893	Major-Gen. Hugh H. McLean	Dec. 28, 1928
John A. Fraser	Dec. 20, 1893		

SEVENTEENTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier and Attorney-General	Hon. J. B. M. Baxter	Sept. 14, 1925
President of Council	Hon. L. P. D. Tilley	Sept. 14, 1925
Minister of Public Works	Hon. D. A. Stewart	Sept. 14, 1925
Provincial Secretary-Treasurer	Hon. A. J. Leger	Sept. 14, 1925
Minister of Lands and Mines	Hon. C. D. Richards	Sept. 14, 1925
Minister of Agriculture	(Vacant)	—
Minister of Health	Hon. H. I. Taylor	Sept. 14, 1925
Minister without Portfolio	Hon. E. A. Reilly	Sept. 14, 1925

QUEBEC.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
Sir N. F. Belleau	July 1, 1867	L. A. Jetté	Feb. 2, 1903[1]
Sir N. F. Belleau	Jan. 31, 1868[1]	Sir Charles A. P. Pelletier	Sept. 4, 1908
Réné Edouard Caron	Feb. 11, 1873	Sir François Langelier	May 5, 1911
Luc Letellier de St-Just	Dec. 15, 1876	Sir Pierre E. Leblanc	Feb. 9, 1915
Theodore Robitaille	July 26, 1879	Right Hon. Sir Charles Fitzpatrick	Oct. 21, 1918
L. F. R. Masson	Nov. 7, 1884	L. P. Brodeur	Oct. 31, 1923
A. R. Angers	Oct. 24, 1887	N. Perodeau	Jan. 8, 1924
Sir J. A. Chapleau	Dec. 5, 1892	Sir Lomer Gouin	Jan. 10, 1929
L. A. Jetté	Feb. 2, 1898	H. G. Carroll	April 2, 1929

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[1] Second term.

11.—Lieutenant-Governors of Provinces, 1867-1930, and present Ministries—con.

QUEBEC—concluded.

SIXTEENTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier, Attorney-General and Minister of Municipal Affairs	Hon. L. A. Taschereau	July 9, 1920
Minister of Agriculture	Hon. J. L. Perron	April 24, 1929
Minister of Lands and Forests	Hon. H. Mercier	July 9, 1920
Minister of Public Works and Labour	Hon. J. N. Francoeur	June 15, 1930
Minister of Colonization, Game and Fisheries	Hon. H. La Ferté	April 24, 1929
Provincial Secretary and Registrar	Hon. A. David	July 9, 1920
Minister of Roads and Mines	Hon. J. Ed. Perrault	April 24, 1929
Minister without Portfolio	Hon. E. Moreau	Sept. 27, 1921
Provincial Treasurer	Hon. A. R. McMaster, K.C	Sept. 12, 1929[1]
Minister without Portfolio	Hon. L. Lapierre	June 4, 1924
Minister without Portfolio	Hon. J. H. Dillon	Jan. 10, 1927
Minister without Portfolio	Hon. Alfred Leduc	April 25, 1927
Minister without Portfolio	Hon. J. E. Ouellette	May 1, 1929
Minister without Portfolio	Hon. N. Perodeau	Dec. 5, 1929

[1] Resigned on account of ill health.

ONTARIO.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
Major-General H. W. Stisted	July 1, 1867	Sir Oliver Mowat	Nov. 18, 1897
W. P. Howland	July 14, 1868	Sir William Mortimer Clark	April 20, 1903
John W. Crawford	Nov. 5, 1873	Sir John M. Gibson	Sept. 22, 1908
D. A. Macdonald	May 18, 1875	Lt.-Col. Sir John S. Hendrie	Sept. 26, 1914
John Beverly Robinson	June 30, 1880	Lionel H. Clarke	Nov. 27, 1919
Sir Alexander Campbell	Feb. 8, 1887	Col. Henry Cockshutt	Sept. 10, 1921
Sir George A. Kirkpatrick	May 30, 1892	William Donald Ross	Dec. 30, 1926

TENTH MINISTRY.

Office.	Name.	Date of Appointment.
Prime Minister, Minister of Education and Minister of Highways	Hon. George S. Henry	Dec. 16, 1930
Attorney-General	Hon. William H. Price	Dec. 16, 1930
Provincial Secretary and Registrar	Hon. Leopold Macaulay	Dec. 16, 1930
Provincial Treasurer	Hon. Edward A. Dunlop	Dec. 16, 1930
Minister of Mines	Hon. Charles McCrae	Dec. 16, 1930
Minister of Public Works and Labour	Hon. J. D. Monteith	Dec. 16, 1930
Minister of Lands and Forests	Hon. Wm. Finlayson	Dec. 16, 1930
Minister of Public Health	Hon. John M. Robb	Dec. 16, 1960
Minister of Agriculture	Hon. Thomas L. Kennedy	Dec. 16, 1930
Minister of Public Welfare	Hon. William G. Martin	Des, 16, 1930
Minister without Portfolio	Hon. John R. Cooke	Dec. 16, 1930
Minister without Portfolio	Hon. Paul Poisson	Dec. 23, 1930
Minister without Portfolio	Hon. Henry C. Scholfield	Dec. 23, 1930

11.—Lieutenant-Governors of Provinces, 1867-1930, and Present Ministries—con.

MANITOBA.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
A. G. Archibald	May 20, 1870	Sir D. H. McMillan	Oct. 16, 1900
Francis Goodschall Johnson	April 9, 1872	Sir D. H. McMillan	May 11, 1906[1]
Alexander Morris	Dec. 2, 1872	Sir D. C. Cameron	Aug. 1, 1911
Joseph Ed. Cauchon	Dec. 2, 1877	Sir James A. M. Aikins	Aug. 3, 1916
James C. Aikins	Sept. 22, 1882	Sir James A. M. Aikins	Aug. 7, 1921[1]
J. C. Schultz	July 1, 1888	Theodore A. Burrows	Oct. 9, 1926
J. C. Patterson	Sept. 2, 1895	J. D. McGregor	Jan. 25, 1929

[1] Second term.

TWELFTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier, President of the Council and Provincial Treasurer	Hon. John Bracken	Aug. 8, 1922 Jan. 12, 1925
Attorney-General and Minister of Telephones and Telegraphs	Hon. W. J. Major, K.C	April 29, 1927
Minister of Public Works	Hon. W. R. Clubb	Aug. 8, 1922
Municipal Commissioner and Provincial Secretary	Hon. D. L. McLeod	Aug. 8, 1922
Minister of Agriculture and Immigration and Railway Commissioner	Hon A. Préfontaine	Jan. 12, 1925
Minister of Education	Hon. R. A. Hoey	April 21, 1927
Minister of Health and Public Welfare	Hon. E. W. Montgomery, M.D	July 12, 1928
Minister of Mines and Natural Resources	Hon. D. G. McKenzie	Oct. 22, 1928

SASKATCHEWAN.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
A. E. Forget	Sept. 1, 1905	H. W. Newlands	Feb. 17, 1921
Geo. W. Brown	Oct. 5, 1910	H. W. Newlands	Feb. 22, 1926[1]
Sir Richard Stuart Lake	Oct. 6, 1915	Lieut.-Col. H. E. Monroe, O.B.E.	Mar. 31, 1931

[1] Second term.

FIFTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier, President of Council, Minister of Education and Minister of Natural Resources	Hon. J. T. M. Anderson, D.Pæd	Sept. 9, 1929
Provincial Treasurer, Minister of Municipal Affairs and Minister in charge of the King's Printer's Office and Bureau of Publications, Loan and Trust Companies Act	Hon. Howard McConnell, K.C	Sept. 9, 1929
Attorney-General	Hon. M. A. MacPherson, K.C	Sept. 9, 1929
Minister of Public Works, Minister of Telephones and Telegraphs, Minister in charge of Fire Prevention Act, Prairie and Forest Fires Act, Insurance Act	Hon. J. F. Bryant, K.C	Sept. 9, 1929
Minister of Public Health and Minister in charge of the Child Welfare Act	Hon. F. D. Munroe, M.D	Sept. 9, 1929
Provincial Secretary, Minister of Railways, Labour and Industries	Hon. J. A. Merkley	Sept. 9, 1929
Minister of Agriculture	Hon. W. C. Buckle	Sept. 9, 1929
Minister of Highways	Hon. A. C. Stewart, K.C	Sept. 9, 1929
Minister without Portfolio	Hon. Reginald Stipe, M.D	Sept. 9, 1929
Minister without Portfolio	Hon. W. W. Smith	Sept. 9, 1929

11.—Lieutenant-Governors of Provinces, 1867-1930, and Present Ministries—con.

ALBERTA.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
George H. V. Bulyea	Sept. 1, 1905	Robert George Brett	Oct. 20, 1920[1]
George H. V. Bulyea	Oct. 5, 1910[1]	William Egbert	Oct. 20, 1925
Robert George Brett	Oct. 6, 1915	William L. Walsh	Apr. 24, 1931

[1] Second term.

FIFTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier	Hon. J. E. Brownlee	Nov. 23, 1925
Provincial Secretary		June 5, 1926
Attorney-General	Hon. J. F. Lymburn	June 5, 1926
Provincial Treasurer	Hon. R. G. Reid	Nov. 23, 1925[1]
Minister of Lands and Mines		Oct. 1, 1930
Minister of Municipal Affairs		Nov. 23, 1925
Minister of Agriculture	Hon. Geo. Hoadley	Nov. 23, 1925[2]
Minister of Public Health		Nov. 23, 1925[1]
Minister of Railways and Telephones	Hon. Vernor W. Smith	Nov. 23, 1925[2]
Minister of Public Works	Hon. O. L. McPherson	Dec. 31, 1926
Minister of Education	Hon. Perrin Baker	Nov. 23, 1925[2]
Minister without Portfolio	Hon. Irene Parlby	Nov. 23, 1925[2]

[1] First appointed in the Hon. H. Greenfield's Ministry on Nov. 3, 1923. [2] First appointed in the Hon. H. Greenfield's Ministry on Aug. 13, 1921.

BRITISH COLUMBIA.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
J. W. Trutch	July 20, 1871	James Dunsmuir	May 11, 1906
Albert Norton Richards	July 20, 1876	T. W. Paterson	Dec. 3, 1909
Clement F. Cornwall	July 20, 1881	Sir Frank S. Barnard	Dec. 5, 1914
Hugh Nelson	Feb. 8, 1887	Col. Edward G. Prior	Dec. 9, 1919
Edgar Dewdney	Nov. 1, 1892	Walter C. Nichol	Dec. 24, 1920
Thomas R. McInnes	Nov. 18, 1897	R. Randolph Bruce	Jan. 21, 1926
Sir Henry G. Joly de Lotbinière	June 21, 1900		

TWENTY-FIRST MINISTRY.

Office.	Name.	Date of Appointment.
Premier and Minister of Railways	Hon. S. F. Tolmie	Aug. 21, 1928
Provincial Secretary and Commissioner of Fisheries	Hon. S. L. Howe	Aug. 21, 1928
Attorney-General	Hon. R. H. Pooley, K.C.	Aug. 21, 1928
Minister of Lands	Hon. F. P. Burden	Aug. 21, 1928
Minister of Finance and Minister of Industries	Hon. W. C. Shelly	Aug. 21, 1928
Minister of Agriculture	Hon. William Atkinson	Aug. 21, 1928
Minister of Mines and Minister of Labour	Hon. W. A. McKenzie	Aug. 21, 1928
Minister of Public Works	Hon. N. S. Lougheed	Aug. 21, 1928
Minister of Education	Hon. J. Hinchliffe	Aug. 21, 1928
President of the Council	Hon. R. W. Bruhn	Aug. 21, 1928
Minister without Portfolio	Hon. R. L. Maitland, K.C.	Aug. 21, 1928

11.—Lieutenant-Governors of Provinces, 1867-1930, and Present Ministries—concluded.

THE TERRITORIES.

NOTE.—In 1888 the districts of Alberta, Assiniboia, Athabaska and Saskatchewan, then called the Northwest Territories, with their capital at Regina, were given local responsible government, and the old Northwest Council was replaced by the Northwest Legislature, which existed until Aug. 31, 1905. When the area included in these districts was formed into the provinces of Alberta and Saskatchewan on Sept. 1, 1905, these provinces were given systems of government similar to the other provinces of the Dominion. The remaining areas (the Yukon Territory and the provisional districts of Franklin, Keewatin and Mackenzie) are now administered by the North West Territories Branch of the Department of the Interior, the Deputy Minister of the Department being the Commissioner of the Northwest Territories.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
A. G. Archibald	May 10, 1870	Joseph Royal	July 1, 1888
Francis Goodschall Johnson	April 9, 1872	C. H. Mackintosh	Oct. 31, 1893
Alexander Morris	Dec. 2, 1872	M. C. Cameron	May 30, 1898
David Laird	Oct. 7, 1876	A. E. Forget	Oct. 11, 1898
Edgar Dewdney	Dec. 3, 1881	A. E. Forget	Mar. 30, 1904[1]

[1] Second term.

PART IV.—REPRESENTATIVES IN OTHER COUNTRIES.

Section 1.—Representatives within the Empire.

The policy of the early North American colonies, of maintaining in London accredited representatives for business and diplomatic purposes, was recognized in the eighteenth century as being a more satisfactory means of communication with the British Government than that provided by occasional official visits or by correspondence. Edmund Burke, the noted British statesman, held the position of agent for the colony of New York for some years following 1771. Of the Canadian colonies, Nova Scotia was the first to adopt this plan, its Legislature having appointed an agent in London in 1761. New Brunswick was similarly represented in 1786, Upper Canada as early as 1794, Lower Canada in 1812 and British Columbia in 1857. For some years after 1845, several of the colonies were represented in London by Crown Agents, appointed by the Secretary of State, and paid by the colonies themselves. This system, however, was of but short duration.

The older provinces of Nova Scotia, Quebec, Ontario and British Columbia still adhere to the practice of former days and are represented in London by Agents-General, as is also the province of Alberta. These officials are appointed by the Legislatures of the provinces under general authority given in the British North America Act and act for their Governments in capacities very similar to that of the High Commissioner, with the exception, perhaps, that their duties have tended to become of a business rather than a diplomatic nature.

The High Commissioner for Canada.—With the federation of the provinces of British North America in 1867, a new political entity which could not avail itself of the services of the provincial agents was brought into existence. To supplement the ordinary method of communication between the Canadian and British Governments (which at that time was by correspondence between the Governor General and the Secretary of State for the Colonies, and now between the Secretary of State for External Affairs of Canada and the Secretary of State for Dominion Affairs in Great Britain), the position of High Commissioner for Canada was created in 1880 (see R.S.C. 1927, c. 92). The duties of the office are defined in the Act as follows:—

> "The High Commissioner shall—
>
> "(a) act as representative and resident agent of Canada in Great Britain, and in that capacity, execute such powers and perform such duties as are, from time to time, conferred upon and assigned to him by the Governor in Council;
>
> "(b) take the charge, supervision and control of the immigration offices and agencies in Great Britain, under the Minister of Immigration and Colonization;
>
> "(c) carry out such instructions as he, from time to time, receives from the Governor in Council respecting the commercial, financial and general interests of Canada in Great Britain and elsewhere".

Sir Alexander Galt was the first Canadian High Commissioner, holding office from May 11, 1880, until May, 1883; in 1884 he was succeeded by Sir Charles Tupper. Lord Strathcona and Mount Royal was appointed in 1896. Sir George H. Perley took charge of the High Commissioner's Office in 1914 but was appointed High Commissioner only on Oct. 12, 1917. The Hon. P. C. Larkin was appointed in February, 1922, and after his decease (Feb. 3, 1930), the Hon. G. Howard Ferguson was appointed on Nov. 28, 1930.

The office of the High Commissioner for Canada is in the Canadian Building, Trafalgar Square, London, S.W. 1.

His Majesty's Government in Great Britain in April, 1928, appointed a High Commissioner for Great Britain in Canada, Sir William H. Clark, who resides in Ottawa, and whose position corresponds to that of the High Commissioner for Canada in Great Britain. This appointment was made in consequence of discussions at the Imperial Conference of 1926. The relevant passage in the report of the Inter-Imperial Relations Committee runs as follows:—

"A special aspect of the question of consultation which we considered was that concerning the representation of Great Britain in the Dominions. By reason of his constitutional position, as explained in section IV (b) of this report, the Governor General is no longer the representative of His Majesty's Government in Great Britain. There is no one therefore in the Dominion capitals in a position to represent with authority the views of His Majesty's Government in Great Britain.

"We summed up our conclusions in the following resolution which is submitted for the consideration of the Conference:—

> 'The Governments represented at the Imperial Conference are impressed with the desirability of developing a system of personal contact, both in London and in the Dominion capitals, to supplement the present system of intercommunication and the reciprocal supply of information on affairs requiring joint consideration. The manner in which any new system is to be worked out is a matter for consideration and settlement between His Majesty's Governments in Great Britain and the Dominions, with due regard to the circumstances of each particular part of the Empire, it being understood that any new arrangements should be supplementary to, and not in replacement of, the system of direct communication from Government to Government and the special arrangements which have been in force since 1918 for communications between Prime Ministers.'"

Section 2.—Representatives outside the Empire.

The Canadian Minister to the United States.—For many years the diplomatic business between Canada and the United States has been steadily increasing, as the natural result of the proximity of the two countries and the closeness of the business relationships between their citizens. Before the Great War a former British Ambassador at Washington, Lord Bryce, said that between two-thirds and three-quarters of the work of the British Embassy in the United States was occasioned by Canadian affairs.

In January, 1918, a temporary Canadian War Mission was established at Washington under the chairmanship of Mr. Lloyd Harris, and was maintained for some years after the close of the war. Though not a formal diplomatic mission, its duties extended to questions usually dealt with through the diplomatic channel. After the retirement of this mission Canada was represented in Washington by Mr. M. M. Mahoney, who acted as agent of the Department of External Affairs, and, through the courtesy of the British Government, occupied an office at the British Embassy.

In 1920, following discussions between the British and Canadian Governments, it was announced that agreement had been reached upon the appointment of a Canadian Minister at Washington, who would act for the British Ambassador in the latter's absence. No appointment was made until Nov. 26, 1926, when, after decision to omit the arrangement that the Canadian Minister should substitute for the British Ambassador, Hon. Charles Vincent Massey was appointed as His Majesty's Envoy Extraordinary and Minister Plenipotentiary in the United States of America to represent the interests of the Dominion of Canada (P.C. 1780 of Nov. 10, 1926). Mr. Massey took up his duties in February, 1927 and held office until July 23, 1930. Major W. D. Herridge, K.C., D.S.O., M.C., was appointed Minister to Washington, Mar. 7, 1931. The Canadian Legation in Washington is situated at 1746 Massachusetts Ave. The United States Government reciprocated in 1927 by appointing Hon. William Phillips its first Minister to Canada. Hon. Mr. Phillips resigned in December, 1929; his successor, Lt.-Col. the Hon. Hanford MacNider, was appointed in August, 1930.

The Canadian Minister to France.—For many years the Canadian Government maintained an agency at Paris. The post was first occupied in 1882 by Hon. Hector Fabre, who also represented for a time the Government of Quebec. After his death Hon. Philippe Roy was appointed in May, 1911, with the title of Commissioner-General of Canada in France. In 1928 an exchange of Ministers was agreed upon between Canada and France, and in September of that year Hon. Philippe Roy was appointed as His Majesty's Envoy Extraordinary and Minister Plenipotentiary in France to represent the interests of the Dominion of Canada.

The Canadian Legation in Paris is situated at No. 1, rue François premier.

The French Government appointed M. Georges Jean Knight as its first Minister in Canada in 1928. On July 1, 1930 he was reappointed to the French Foreign Office, since when the Canadian post has been vacant.

The Canadian Minister to Japan.—In 1928 an exchange of Ministers was agreed upon between the Governments of Canada and Japan, and Hon. H. M. Marler was appointed in 1929 as His Majesty's Envoy Extraordinary and Minister Plenipotentiary in Japan to represent the interests of the Dominion of Canada.

The Japanese Government appointed Mr. Iyemasa Tokugawa as its first Minister in Canada in 1929.

Canadian Advisory Officer, League of Nations.—The precedent of appointing permanent representatives at Geneva accredited to the League of Nations was set, it is understood, by Japan, and has found favour especially among those nations which are situated at a distance from Geneva. It was found that, while countries adjacent to the seat of the League were able without difficulty to include in the personnel of their delegations to the Assembly and Council various advisors and assistants at a minimum of expense, distant countries were at a disadvantage in this respect. Canada's duties as a member of the Assembly and of the International Labour Conference, and as one of the eight countries represented on the Governing Body of the International Labour Office, made this disadvantage especially felt. Accordingly the position of Dominion of Canada Advisory Officer, League of Nations, was created by Order in Council P.C. 2174 of Dec. 17, 1924, and Dr. W. A. Riddell was appointed to the post on Jan. 1, 1925.

The duties of the Canadian Advisory Officer are "to establish and maintain as close relations as possible with the Secretariats of the League of Nations and the International Labour Office", to "communicate with the Government of Canada as to all matters arising and requiring its attention", and to "act in all such matters in an advisory capacity to the Government of Canada and to delegates from the Government of Canada to conferences arising out of the organizations before-named".

The office of the Canadian Advisory Officer is situated at 41, Quai Wilson, Geneva.

PART V.—CANADA AND THE LEAGUE OF NATIONS.[1]

The League of Nations is an association of States which have pledged themselves through signing the Covenant (*i.e.*, the constitution of the League)[2], not to go to war before submitting their disputes with each other or States not Members of the League to arbitration or inquiry and a delay of from three to nine months. Furthermore, any State violating this pledge is automatically in a state of outlawry with the other States, which are bound to sever all economic and political relations with the defaulting member. The States Members of the League have pledged themselves to co-operate over a wide range of economic, social, humanitarian and labour questions.

The League of Nations came formally into existence on Jan. 10, 1920, through the coming into force of the Treaty of Versailles. The two official languages of the League are English and French. The seat of the League is Geneva, Switzerland. Canada, as a signatory of the Treaty of Versailles, has been a Member of the League from the beginning.

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[1] Contributed by N. R. Robertson, Department of External Affairs, Ottawa.

[2] The text of the Covenant of the League of Nations, and the Protocol for the Pacific Settlement of International Disputes, may be obtained from the King's Printer, Ottawa, price 25 cents.

Membership.—The 54 States which are Members of the League (November, 1930), together with the dates at which membership was taken out follow:—

Country	Date
Abyssinia	Sept. 28, 1923
Albania	Dec. 16, 1920
Argentine Republic	July 18, 1919
Australia	Jan. 10, 1920
Austria	Dec. 16, 1920
Belgium	Jan. 10, 1920
Bolivia	Jan. 10, 1920
Bulgaria	Dec. 16, 1920
Canada	**Jan. 10, 1920**
Chile	Nov. 4, 1919
China	July 16, 1920
Columbia	Feb. 16, 1920
Cuba	Mar. 8, 1920
Czechoslovakia	Jan. 10, 1920
Denmark	Mar. 8, 1920
Estonia	Sept. 22, 1921
Finland	Dec. 16, 1920
France	Jan. 10, 1920
Germany	Sept. 8, 1926
Greece	Mar. 30, 1920
Guatemala	Jan. 10, 1920
Haiti	June 30, 1920
Holland	Mar. 9, 1920
Honduras	Nov. 3, 1920
Hungary	Sept. 18, 1922
India	Jan. 10, 1920
Irish Free State	Sept. 10, 1923
Italy	Jan. 10, 1920
Japan	Jan. 10, 1920
Latvia	Sept. 22, 1921
Liberia	June 30, 1920
Lithuania	Sept. 22, 1921
Luxemburg	Dec. 16, 1920
New Zealand	Jan. 10, 1920
Nicaragua	Nov. 3, 1920
Norway	Mar. 5, 1920
Panama	Jan. 9, 1920
Paraguay	Dec. 26, 1919
Persia	Nov. 21, 1919
Peru	Jan. 10, 1920
Poland	Jan. 1920
Portugal	April 8, 1920
Roumania	April 1920
Santo Domingo	Sept. 29, 1924
San Salvador	Mar. 10, 1924
Serb-Croat-Slovene State[1]	Feb. 10, 1920
Siam	Jan. 10, 1920
South Africa	Jan. 1920
Spain	Jan. 1920
Sweden	Mar. 9, 1920
Switzerland	Mar. 8, 1920
United Kingdom	Jan. 10, 1920
Uruguay	Jan. 1920
Venezuela	Mar. 3, 1920

The following ten states are not Members of the League:—United States of America, Brazil, the Union of Soviet Socialist Republics, Turkey, Egypt, Ecuador, Mexico, Afghanistan, Costa Rica, and the Hejaz.

The Organs of the League.—The primary organs of the League are:—

1. The Council.
2. The Assembly.
3. The Secretariat.
4. The International Labour Organization.[2]
5. The Permanent Court of International Justice (at the Hague).

The Council.—The Council was originally composed of four permanent Members (the British Empire, France, Italy, and Japan) and four non-permanent Members to be elected every year by a majority of the Assembly. The first non-permanent Members, appointed by the Peace Conference and named in the Covenant before the first Assembly met, were Belgium, Brazil, Greece, and Spain. With the approval of the majority of the Assembly, the Council may appoint new permanent and non-permanent Members. At the Assembly of September, 1926, Germany was admitted to the League and given a permanent seat on the Council. At the same time the number of non-permanent seats, already increased to six in 1922, was further increased to nine, the period of office to be three years. In order to institute the new system of rotation, three were elected for one year, three for two years, and three for three years, so that at all subsequent Assemblies three members retire instead of nine at once. Any member of the League not represented on the Council shall be invited to send a representative to sit on it at any meetings at which matters especially affecting it are being discussed. A similar invitation may be extended to States not Members of the League. Canada was a Member of the Council of the League from 1927 to 1930.

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[1] Also known as Yugoslavia or (incorrectly) Jugoslavia.

[2] *Re* the International Labour Organization see Section 4 of Chapter XIX of this volume.

The Council meets on the third Monday in January, the second Monday in May, and just before and after the Assembly in September.

The Council is at present (November, 1930) composed of the following States Members of the League:—

Permanent Members: British Empire (United Kingdom), France, Germany, Italy, Japan.

Non-Permanent Members: Colombia, Guatemala, Irish Free State, Norway, Persia, Peru, Poland, Spain, Venezuela, Yugoslavia.

The Assembly.—Every State Member of the League is entitled to be represented by a delegation to the Assembly composed of not more than three delegates and three substitute delegates, but it has only one vote. It meets at the seat of the League (Geneva) on the first Monday in September. It may meet at other places than Geneva, but hitherto it has never done so; extraordinary sessions may be called to deal with urgent matters.

The President is elected at the first meeting of the session, and holds office for the duration of the session.

The Assembly divides itself into the following six principal committees, on each of which every State Member of the League has the right to be represented by one delegate:

1. Juridical.
2. Technical Organizations.
3. Disarmament.
4. Budget and Staff.
5. Social Questions.
6. Political Questions and Admission of New Members.

The decisions of the Assembly must be voted unanimously, except where the Covenant or the Peace Treaties provide otherwise. As a general principle decisions on questions of procedure are voted by majority or in some cases by a two-thirds majority.

The Secretariat.—The Secretariat is a permanent organ composed of the Secretary-General and a number of officials selected from among citizens of all Member States and from the United States of America. The Secretary-General, appointed by the Peace Conference, is the Hon. Sir James Eric Drummond, K.C.M.G., C.B.; hereafter the Secretary-General will be appointed by the Council with the approval of the majority of the Assembly. The other officials are appointed by the Secretary-General with the approval of the Council.

The Under-Secretaries-General are: M. J. Avenol, former French Inspector-General of Finance (Deputy Secretary-General); Marchese Paulucci di Calboli Barone, former Italian Minister Plenipotentiary; Herr A. Dufour-Feronce, former German Counsellor of Embassy; M. Yotaro Sugimura, former Japanese Minister Plenipotentiary.

Budget of the League.—(1) Scale of allocation of the expenses of the League.

Country.	Units.	Country.	Units.
Abyssinia	2	Italy	60
Albania	1	Japan	60
Argentina	29	Latvia	3
Australia	27	Liberia	1
Austria	8	Lithuania	4
Belgium	18	Luxemburg	1
Bolivia	4	Netherlands	23
Bulgaria	5	New Zealand	10
Canada	**35**	Nicaragua	1
Chile	14	Norway	9
China	46	Panama	1
Colombia	6	Paraguay	1
Cuba	9	Persia	5
Czechoslovakia	29	Peru	9
Denmark	12	Poland	32
Dominican Republic	1	Portugal	6
Estonia	3	Roumania	22
Finland	10	Salvador	1
France	79	Siam	9
Germany	79	South Africa (Union of)	15
Great Britain	105	Spain	40
Greece	7	Sweden	18
Guatemala	1	Switzerland	17
Haiti	1	Uruguay	7
Honduras	1	Venezuela	5
Hungary	8	Yugoslavia	20
India	56		
Irish Free State	10	Total	986

(2) General Budget for the 13th Financial Period (1931).

	Gold Francs.
Secretariat and Special Organizations	17,091,586
International Labour Organization	8,661,652
Permanent Court of International Justice	2,712,658
Buildings at Geneva	2,170,822
Pensions	1,000,773
Total	31,637,501

(One gold franc = 1 Swiss franc = 19·3 cents.)

Canada's share of the estimated expenditure during 1931 is therefore 35/986 of the total or 1,123,035·02 gold francs, less certain refunds on prior payments which make the net sum due 1,062,867·99 gold francs, or $205,083.94.

Mandates.—The African and Pacific possessions of Germany and certain territories of the Ottoman Empire were ceded by these countries at the end of the war to the Allied and Associated Powers. The latter had inserted an article (Art. 22) in the Covenant of the League according to which the inhabitants of these territories should be put under the tutelage of "advanced nations who by reason of their resources, their experience, or their geographical position, can best undertake this responsibility". These nations should act as mandatories of the League, and exercise their powers on behalf of the League. They should act on the principle that the well-being and development of the peoples under their tutelage formed a "sacred trust of civilization", and should render the Council an annual report on the territory committed to their charge.

Article 22 furthermore divides the mandated territories into three classes, according to the degree of civilization of their inhabitants, economic and geographic circumstances, and so forth. Class A is composed of the communities detached from the Ottoman Empire, declared to have "reached a stage of development where their existence as independent nations can be provisionally recognized, subject to the rendering of administrative advice and assistance by a Mandatory until such time as they are able to stand alone".

Class B, consisting of the former German colonies in Central and East Africa, should be administered by the Mandatory under conditions which will "guarantee freedom of conscience or religion, subject only to the maintenance of public order and morals, the prohibition of abuses such as the slave trade, the arms traffic, and the liquor traffic, and the prevention of the establishment of fortifications or military or naval bases and of military training of the natives for other than police purposes and the defence of territory, and will also secure equal opportunities for the trade and commerce of other members of the League".

Class C (German South West Africa and Pacific Islands possessions) is composed of territories which, owing to sparseness of population, small size, remoteness from centres of civilization, or geographical contiguity to the territory of the Mandatory Power, "can best be administered under the laws of the Mandatory as integral portions of its territory, subject to the safeguards above mentioned in the interests of the indigenous population".

The Supreme Council, as the organ of the Allied and Associated Powers, allocated the mandates for the territories ceded by Germany and Turkey, subject to the approval of the Council of the League. The mandates and mandatory powers, as determined by the Supreme Council are:—

A Mandates.—Mesopotamia (now the Kingdom of Iraq) and Palestine, attributed to Great Britain; Syria (including Lebanon), attributed to France.

B Mandates.—Togoland and Cameroon, attributed in part to Great Britain and in part to France. The north-western portion of former German East Africa, attributed to Belgium. The remainder of former German East Africa (now Tanganyika Colony), attributed to Great Britain.

C Mandates.—Former German South Pacific possessions (except Nauru and Samoa), attributed to Australia. Samoa, attributed to New Zealand; and Nauru, attributed to the British Empire and administered jointly by Australia, New Zealand, and Great Britain. Former German North Pacific possessions (Yap, etc.), attributed to Japan. Former German South-West Africa, attributed to the Union of South Africa.

Minorities.—Poland, Yugoslavia, Czechoslovakia, Roumania and Greece, in treaties signed at Paris during the Peace Conference with the principal Allied and Associated Powers, undertook to recognize and respect certain fundamental, civil, political, and religious rights of minorities incorporated within their boundaries. Similar obligations were imposed on Austria, Bulgaria, Hungary and Turkey in the Treaties of Peace concluded with those countries. These minority rights were placed under the guarantee of the League of Nations. Albania, Estonia, Finland, Latvia, and Lithuania, on entering the League, made formal declaration of their willingness to accept the same obligations with regard to the protection of national minorities.

The system of the protection of minorities by the League of Nations does not establish a general jurisprudence applicable wherever racial, linguistic or religious minorities exist. On the contrary it aims at facilitating the solution of problems arising from the existence of minorities in certain countries in which there was reason to suppose that, owing to special circumstances, these problems might present particular difficulties.

The parties to the various Minorities Treaties recognize, and the Council of the League guarantees, that racial, religious, and linguistic minorities in the countries mentioned shall enjoy the right to:—(1) nationality, (2) life, personal liberty and freedom of worship, (3) equal treatment in law and fact, (4) the use of their several languages, and (5) a share of the public funds devoted to educational, religious or charitable purposes.

The sole duty of the League in this matter is to watch over the execution of these treaty obligations. The organ of the League appointed by the treaties for this purpose is the Council. In order to facilitate the exercise of this guarantee, the Council has laid down conditions of receivability which must be satisfied by any petition alleging the infraction of the Minorities Treaties before the petition can be communicated to the State concerned or to the Committee of the Council which considers minority petitions.

Economic and Financial Organization.—This Organization consists of the Financial Committee, the Economic Committee, the Consultative Committee, and the Economic and Financial Section of the Secretariat.

The Financial Committee advises the Council on all financial questions susceptible of settlement by international action on which its advice has been asked by the Council. Its membership includes high treasury officials, directors of great private banks, eminent economists, and statisticians chosen by the Council for their expert capacity and special knowledge of financial questions. Its activities in the past have included the reorganization of the finances of Austria and Hungary, and the supervision of stabilization loans for Bulgaria, Estonia and Greece. At the present time, through the Gold Delegation of the Financial Committee, it is examining the causes of the fluctuations in the purchasing power of gold and their effects on economic welfare. In co-operation with the Fiscal Committee it is studying the international aspects of national taxation policies, in particular, the question of double taxation.

The Economic Committee consists of fifteen members appointed by the Council for their expert capacity in international economic affairs. They do not represent their Governments. The Committee works through a series of temporary sub-committees created to examine particular problems referred to it by the Council. At the present time such sub-committees are engaged in studying the possible unification of customs nomenclature, the principles of international veterinary regulation, and the specific questions referred to it by the Conference on Concerted Economic Action, *e.g.*, the interpretation of the most-favoured-nation clause, the bases and limits of regional agreements for preferential treatment, indirect protection, and the causes of the prevailing depression in industry and agriculture.

Organization for Communications and Transit.—This Organization comprises the Advisory and Technical Commission for communications and transit, a number of permanent and temporary Advisory Sub-Committees, a General Conference meeting in Geneva every four years, and the Communications and Transit Section of the Secretariat.

The function of the Organization is to facilitate international co-operation in transit and communications by the application of Article 23 (e) of the Covenant of the League and to assist the Council and the Assembly in carrying out its duties in this field. Its studies include an examination of the international aspects of ocean and river navigation, railway transport, electrical transmission, calendar reform, and ancillary economic and legal questions.

Health Organization.—The Health Organization of the League has developed as an answer to the obligation "to take steps in matters of international concern for the prevention and control of disease" recognized in Article 23 of the Covenant of the League of Nations. It consists of an Advisory Council, the Health Committee, and the Health Section of the Secretariat. The Health Committee of sixteen members appointed by the Council acts as an advisory organ of the Council and Assembly on all health matters and its work is subject to the approval of these bodies on the same basis as that of the other League technical organizations. Its work falls into three stages: first, the study and collection of information; secondly, the formulation of general policies from the data collected; and, thirdly, the preparation of concerted international action in health questions.

The world-wide service of epidemiological intelligence and the collation and comparison of public health statistics illustrate the first stage; the inquiries into the causes of malaria and infant mortality represent the second stage; and the work of the Permanent Standardization Committee, which is devising and maintaining uniform international standards for the preparation and measurement of serological and biological products, is an example of the third phase of the work.

In addition to general inquiries into the incidence of and remedial and preventive measures for tuberculosis, cancer, leprosy, malaria and sleeping sickness, the Health Organization has given technical advice and assistance in the reconstruction of the public health services in China, Bolivia, Greece and Bulgaria.

Social and Humanitarian Work.—The work of the League in the field of social and humanitarian questions has been varied and considerable: efforts have been directed, on the one hand, to the suppression of old abuses such as the traffic in women and children and the traffic in opium; to mitigating the sufferings which war had left in its train, such as those caused by typhus epidemics, and to improving the unhappy lot of prisoners of war, of Russian refugees, Armenians, Greeks and Turks, whom conflicts or political upheavals had scattered far from their homes.

Among these tasks some, such as the traffic in women and children and the traffic in opium, have been expressly committed to the League by the Covenant. Others, like the repatriation of prisoners of war or the refugee question, have been taken up by the League either in general accordance with the spirit of the Covenant, or in response to the indication of public opinion. For the purpose of these tasks, the League has created permanent organizations, such as the Opium Committee and the Committee on the Traffic in Women and Children, or provisional organizations such as the High Commissariats for Prisoners of War and for Refugees.

Permanent Court of International Justice.—The Permanent Court of International Justice was established by the Protocol of Dec. 16, 1920, in accordance with Article 14 of the Covenant of the League of Nations. It is composed of a body of fifteen judges elected by the Assembly and Council of the League of Nations for a term of nine years, and sits at the Hague. The Court is competent to hear and determine any dispute of an international character which the parties thereto submit to it; it may also give an advisory opinion upon any dispute or question referred to it by the Council or the Assembly. Article 36 of the Statute of the Court provides that any State may recognize as compulsory the jurisdiction of the Court in all or any classes of legal dispute concerning:—

(a) The interpretation of a Treaty.
(b) Any question of international law.
(c) The existence of any fact which, if established, would constitute a breach of an international obligation, and the nature and extent of the reparation to be made for the breach of the international obligation.

Canada has been a Member of the Court from its inception, and in 1929 accepted, subject to certain reservations, the compulsory jurisdiction of the Court in the cases contemplated in Article 36.

At the 11th Assembly of the League of Nations in September, 1930, the following judges were elected to the bench of the Court for a term of nine years from Jan. 1, 1931:—

M. Adatci, Japan; M. Anzilotti, Italy; M. de Bustamente, Cuba; M. Fromageot, France; Sir Cecil Hurst, Great Britain; M. Altamira y Crevea, Spain; M. Van Eysinga, Holland; M. Guerrero, Salvador; Mr. F. B. Kellogg, United States; Baron Rolin-Jacquemyns, Belgium; M. Negulesco, Roumania; Count Rostworowski, Poland; M. Schucking, Germany; M. Wang Chung-Hui, China; M. Urrutia, Colombia.

Forty-three States have ratified the Protocol establishing the Court; twelve States, including the United States of America, have signed but have not yet ratified the Protocol.

Canadian Ratifications of International Agreements and Conventions.— Canada has ratified or acceded to the following International Agreements and Conventions concluded under the auspices of the League of Nations.

1. Protocol of Signature of the Permanent Court of International Justice (Geneva, Dec. 16, 1920).
2. Optional Clause recognizing the Court's Jurisdiction as described in Article 36 of the Statute (Geneva, Dec. 16, 1920).
3. Declaration recognizing the Right to a Flag of States having no Sea Coast (Barcelona, April 20, 1921).
4. International Convention for the Suppression of the Traffic in Women and Children (Geneva, Sept. 30, 1921).
5. International Convention for the Suppression of the Circulation of and Traffic in Obscene Publications (Geneva, Sept. 12, 1923).
6. Convention of the Second Opium Conference of the League of Nations (Geneva, Feb. 19, 1925).
7. Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous, and other Gases, and of Bacteriological Methods of Warfare (Geneva, June 17, 1925).
8. Slavery Convention (Geneva, Sept. 25, 1926).
9. International Convention relating to Economic Statistics (Geneva, Dec. 14, 1928).
10[1]. Protocol concerning the Revision of the Statute of the Permanent Court of International Justice (Geneva, Sept. 14, 1929).
11[1]. Protocol relating to the Accession of the United States of America to the Protocol of Signature of the Statute of the Permanent Court of International Justice (Geneva, Sept. 14, 1929).

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[1] Not in force.

CHAPTER IV.--POPULATION.[1]

The Population chapter of the Year Book contains a *précis* of the results of investigations into the number and the constitution of the population made in the censuses of Canada since Confederation, summarizing the growth and distribution of population between 1871 and 1921, as shown by the successive decennial censuses, in regard to the chief matters investigated at the censuses.

The modern census, now established in all civilized countries as the chief method of measuring periodically the population and its social and economic phenomena, has been described by a modern United States writer as the greatest single peace-time activity in which the government engages, both in respect of the physical extent of its organization and the important part which its results play in the general administration of public affairs.

Under the Canadian constitution, the legal *raison d'être* of the census is to determine representation in the House of Commons; after each decennial census a redistribution of seats in the House, following the course of the movement of population, is made in the manner described on pp. 97-100 of this volume. (See also pp. 72-74 of the 1924 Year Book.) But the census, especially since the introduction of methods of mechanical tabulation, has become far more than a mere counting of heads. It is a great periodical stock-taking of the people and their affairs, designed to show as fully as possible the stage which has been reached in the progress of the nation. Thus the numbers, local distribution, age, sex, racial origin, nationality, language, religion, education, housing and occupations of the people, severally constitute investigations of enormous importance, to which all the continuous and routine statistics collected in the ordinary course of administration must be related if their importance is to be realized. The census, in fine, rounds out and completes the scheme of information upon which the Government relies in conducting the affairs of the country.

On account of the requirements as to parliamentary representation and the payment of provincial subsidies, which are based on population, the Canadian census is taken on the *de jure* principle; *i.e.*, each person is counted as belonging to the locality in which he is regularly domiciled, irrespective of where he may be at the date of the enumeration. Under the *de facto* method adopted in the United Kingdom each individual is counted as belonging to the locality where he is found on the census date. The *de facto* method is undoubtedly simpler, but the *de jure* plan better portrays the permanent condition of the population. The chief difficulty in the application of the latter method is found in connection with holiday resorts, in the segregation of "visitors" and the tracing of "absentees"; a date prior to the opening of the holiday season is accordingly chosen for the date of the census. In the Canadian census, students and inmates of hospitals are assigned to their home localities, while inmates of prisons, jails, lunatic asylums, etc., are counted where found.

Section 1.—Census Statistics of General Population.

Since the creation of the Dominion of Canada, in 1867, decennial censuses have been taken on the *de jure* plan as of the dates April 2, 1871, April 4, 1881, April 5, 1891, April 1, 1901, June 1, 1911, and June 1, 1921. The population of Canada and its percentage distribution as on these dates, together with the absolute and percentage increases from decade to decade, are given in Tables **1** to **4** immediately following.

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[1] This chapter has been revised by E. S. Macphail, Chief, Demography Branch, Dominion Bureau of Statistics. A list of the publications of this branch will be found in Chapter XXVIII, Section I, under "Population."

1.—Population of Canada by Provinces and Territories in the Census Years 1871 to 1921.[1]

Province or Territory.	1871.	1881.	1891.	1901.	1911.	1921.
Prince Edward Island	94,021	108,891	109,078	103,259	93,728	88,615
Nova Scotia	387,800	440,572	450,396	459,574	492,338	523,837
New Brunswick	285,594	321,233	321,263	331,120	351,889	387,876
Quebec	1,191,516	1,359,027	1,488,535	1,648,898	2,005,776[2]	2,361,199
Ontario	1,620,851	1,926,922	2,114,321	2,182,947	2,527,292[2]	2,933,662
Manitoba	25,228	62,260	152,506	255,211	461,394[2]	610,118
Saskatchewan	–	–	–	91,279	492,432	757,510
Alberta	–	–	–	73,022	374,295[3]	588,454
British Columbia	36,247	49,459	98,173	178,657	392,480	524,582
Yukon Territory	–	–	–	27,219	8,512	4,157
Northwest Territories[4]	48,000	56,446	98,967	20,129	6,507[2]	7,988
Royal Canadian Navy	–	–	–	–	–	485
Totals	**3,689,257**	**4,324,810**	**4,833,239**	**5,371,315**	**7,206,643**	**8,788,483**

2.—Percentage Distribution of Canadian Population by Provinces and Territories, 1871 to 1921.

Province or Territory.	1871.	1881.	1891.	1901.	1911.	1921.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Prince Edward Island	2·55	2·52	2·25	1·92	1·30	1·01
Nova Scotia	10·51	10·19	9·32	8·56	6·83	5·96
New Brunswick	7·74	7·43	6·65	6·16	4·88	4·41
Quebec	32·30	31·42	30·80	30·70	27·83	26·87
Ontario	43·94	44·56	43·74	40·64	35·07	33·38
Manitoba	0·68	1·44	3·16	4·75	6·40	6·94
Saskatchewan	–	–	–	1·70	6·84	8·62
Alberta	–	–	–	1·36	5·19	6·70
British Columbia	0·98	1·14	2·03	3·33	5·45	5·97
Yukon Territory	–	–	–	0·51	0·12	0·05
Northwest Territories[4]	1·30	1·30	2·05	0·37	0·09	0·09
Royal Canadian Navy	–	–	–	–	–	–
Totals	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**

3.—Population of Canada by Provinces and Territories in 1871 and 1921, and Numerical Increase in each Decade from 1871 to 1921.

Province or Territory.	Population in 1871.	Increase in each decade from 1871 to 1921.					Population in 1921.	Increase, 1871 to 1921.
		1871 to 1881.	1881 to 1891.	1891 to 1901.	1901 to 1911.	1911 to 1921.		
P. E. Island	94,021	14,870	187	−5,819	−9,531	−5,113	88,615	−5,406
Nova Scotia	387,800	52,772	9,824	9,178	32,764	31,499	523,837	136,037
New Brunswick	285,594	35,639	30	9,857	20,769	35,987	387,876	102,282
Quebec	1,191,516	167,511	129,508	160,363	356,878	355,423	2,361,199	1,169,683
Ontario	1,620,851	306,071	187,399	68,626	344,345	406,370	2,933,662	1,312,811
Manitoba	25,228	37,032	90,246	102,705	206,183	148,724	610,118	584,890
Saskatchewan	–	–	–	91,279	401,153	265,078	757,510	757,510
Alberta	–	–	–	73,022	301,273	214,159	588,454	588,454
British Columbia	36,247	13,212	48,714	80,484	213,823	132,102	524,582	488,335
Yukon Territory	–	–	–	27,219	−18,707	−4,355	4,157	4,157
Northwest Territories[4]	48,000	8,446	42,521	−78,838	−13,622	1,481	7,988	−40,012
Royal Canadian Navy	–	–	–	–	–	485	485	485
Totals	**3,689,257**	**635,553**	**508,429**	**538,076**	**1,835,328**	**1,581,840**	**8,788,483**	**5,099,226**

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[1] The population of the Prairie Provinces in 1906, 1916 and 1926 is shown on pp. 127-128 of the 1930 Year Book. For estimated populations, 1924-1930, see Table 7, p. 132. [2] As corrected as a result of the Extension of Boundaries Act, 1912. [3] As corrected by transfer of population of Fort Smith (368) to Northwest Territories. [4] The decreases shown in the population of the Northwest Territories since 1891 are due to the separation therefrom of vast areas to form Alberta, Saskatchewan and the Yukon Territory, and to extend the boundaries of Quebec, Ontario and Manitoba.

4.—Population of Canada by Provinces and Territories in 1871, and Increase Per Cent by Decades from 1871 to 1921.

Province or Territory.	Population in 1871.	Per cent Increase by Decades from 1871 to 1921.					Per cent Increase in 50 Years.
		1871 to 1881.	1881 to 1891.	1891 to 1901.	1901 to 1911.	1911 to 1921.	
		p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Prince Edward Island	94,021	15·82	0·17	−5·33	−9·23	−5·46	−5·75
Nova Scotia	387,800	13·61	2·23	2·04	7·13	6·40	35·08
New Brunswick	285,594	12·48	0·01	3·07	6·27	10·23	35·82
Quebec	1,191,516	14·06	9·53	10·77	21·64	17·72	98·17
Ontario	1,620,851	18·88	9·73	3·25	15·77	16·08	80·99
Manitoba	25,228	146·79	144·95	67·34	80·79	32·23	2,318·42
Saskatchewan	–	–	–	–	439·48	53·83	–
Alberta	–	–	–	–	412·58	57·22	–
British Columbia	36,247	36·45	98·49	81·98	119·68	33·66	1,347·24
Yukon Territory	–	–	–	–	−68·73	−51·16	–
Northwest Territories[1]	48,000	17·60	75·33	−79·66	−67·67	22·76	−83·36
Totals	**3,689,257**	**17·23**	**11·76**	**11·13**	**34·17**	**21·95**	**138·22**

[1] The decreases shown in the population of the Northwest Territories since 1891 are due to the separation therefrom of immense areas to form the provinces of Alberta and Saskatchewan and the Yukon Territory, as well as to extend the boundaries of the older provinces of Quebec, Ontario and Manitoba.

Early Censuses.—The credit of taking the first census of modern times belongs to Canada. The year was 1665, the census that of the colony of New France. Still earlier records of settlement at Port Royal (1605) and Quebec (1608) are extant; but the census of 1665 was a systematic "nominal" enumeration of the people, taken on the *de jure* principle, on a fixed date, showing age, sex, occupation and conjugal and family condition. A supplementary inquiry in 1667 included the areas under cultivation and the numbers of sheep and cattle. When it is recalled that in Europe the first census dates only from the eighteenth century (those of France and England from the first year of the nineteenth) and that in the United States the census begins only with 1790, the achievement of the primitive St. Lawrence colony in instituting what is to-day one of the principal instruments of government throughout the civilized world may call for more than passing appreciation.

The census of 1665 (the results of which occupy 154 pages in manuscript, still to be seen in the Archives in Paris, with a transcript at Ottawa) showed some 3,215 souls. It was repeated at intervals more or less regularly for a hundred years. By 1685 the total had risen to 12,263, including 1,538 Indians collected in villages. By the end of the century it had passed 15,000, and this was doubled in the next twenty-five years. Not to present further details, some of which will be found in the Chronology on pp. 77-87, it may be said that at the time of the cession (1763) the population of New France was about 70,000, whilst another 10,000 French (thinned to these proportions by the expulsion of the Acadians), were scattered through what are now Nova Scotia, New Brunswick and Prince Edward Island. The British population of Nova Scotia was at this time about 9,000.

Our chief sources of statistics for half a century and more after the cession, are the reports of colonial governors—more or less sporadic—though censuses of the different sections under British rule were taken at irregular intervals. British settlement on a substantial scale in the Gulf provinces and in Ontario dates only from the Loyalist movement which followed the American Revolution, at the end of which, *i.e.*, about the year of the Constitutional Act (1791), the population of

Lower Canada was approximately 163,000, whilst the newly constituted province of Upper Canada under Lieutenant-Governor Simcoe numbered perhaps 15,000, and the addition of the maritime colonies brought the total to well over 200,000. A decade later Canada began the nineteenth century with a population of probably not less than 250,000 or 260,000. Subsequent censuses gave the population of the different colonies as follows: Upper Canada (1824) 150,066, (1840) 432,159; Lower Canada (1822) 427,465, (1844) 697,084; New Brunswick (1824) 74,176, (1840) 156,162; Nova Scotia (1817) 81,351, (1838) 202,575; Prince Edward Island (1822) 24,600, (1841) 47,042.[1]

The policy of desultory census-taking was ended in 1847 by an Act of the Canadian Legislature creating a "Board of Registration and Statistics", with instructions "to collect statistics and adopt measures for disseminating or publishing the same", and providing also for a decennial census. The first census thereunder was taken in 1851, and as similar censuses were taken by New Brunswick and Nova Scotia in the same year, we have a regular measure of population growth in Canada over the past 70 years. The fifties saw a very rapid development, especially in Ontario, whilst the sixties showed only less substantial gains. In the years following Confederation, there was a spurt, the increase between 1871 and 1881 (which included several lean years towards the end) being 635,553, or 17·23 p.c. In neither of the last two decades of the nineteenth century, however, was this record equalled, either absolutely or relatively, the gains in each being under 550,000, or 12 p.c. With the end of the century the population of Canada had reached approximately five and a third millions, or twenty times that of 1800.

Expansion in the Twentieth Century.—It is within the confines of the present century that the most spectacular expansion of the Canadian population has taken place. The outstanding feature was, of course, the opening to settlement of the "last best West". The unorganized territories of British North America had been ceded to the Dominion soon after Confederation, and the West had been tapped and traversed by the Canadian Pacific Railway in the eighties and nineties. But though western population was doubled in each of these decades, it was only with the launching of a large-scale immigration movement after 1900 that western settlement and production became a first-rate economic factor. Simultaneously an almost equally striking development occurred in the industrial centres of Eastern Canada, which formed the immediate basis for the move upon the West. At the back, of course, was the heavy inflow of British and other capital—a total of one and a half billions of dollars between 1900 and 1912—which went to finance the large constructive undertakings (chiefly railway, municipal and industrial) which characterized the movement, and which represented at bottom the traditional policy of England in search of cheap and abundant food for her workshop population. The years 1901 to 1911, in brief, form the *decas mirabilis* of Canadian expansion. The immigration movement just mentioned, which had previously run well under 50,000 per annum, rose rapidly to over five times that volume, eventually passing 400,000 in a single year. In the ten years between 1901 and 1911 it exceeded 1,800,000, and though at least a third of these were lost (partly in the return to Europe of labour temporarily attracted by the railway and other developments in progress, and partly in the never-ceasing and natural "drag" of the United States upon a virile and less wealthy people), it formed the chief factor in the gain of 34 p.c. which the total population of Canada registered in that decade, and which was larger than the relative growth of any other country during the same period. The movement was continued and even intensified in the first three years of the second decade of the century, after which a recession set in to which the outbreak of war gave a new and wholly unexpected turn. Nevertheless the decade which closed with the census of 1921 showed over 1,700,000 immigrant arrivals in Canada, and though the proportionate loss of these was very heavy (probably as much as two-thirds), Canada's relative gain for the decade was again among the largest in the world.

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[1] A *résumé* of the results of all the censuses taken in Canada between 1665 and 1861 was published as Vol. IV of the census of 1871.

The Census of 1921.—According to the final results of the 1921 census, the total population of the Dominion on June 1, 1921, was 8,788,483, as compared with 7,206,643 on June 1, 1911, an increase of 1,581,840 or 21·95 p.c. in the decade, as compared with 34·17 p.c. during the decade from 1901 to 1911.

The countries which comprise the British Empire, as also the United States, suffered much less in actual loss of life from the war and its consequences than the continental countries of Europe. None of them actually declined in population during the period, as many continental European countries did. Their percentage increases, however, were in almost all cases lower than in the previous decade. Thus the population of England and Wales increased between 1911 and 1921 only from 36,070,492 to 37,885,242, or 5·0 p.c., as compared with an increase of 10·9 p.c. in the previous decade; Scotland, again, increased only from 4,760,904 to 4,882,497, or 2·6 p.c., as compared with 6·5 p.c. between 1901 and 1911.

Of the overseas Dominions, New Zealand increased from 1,008,468 to 1,218,913 or 20·9 p.c., as compared with 30·5 p.c., while the white population of South Africa increased from 1,276,242 to 1,519,488 or 19·1 p.c. On the other hand, the Commonwealth of Australia, the only Dominion to grow more rapidly in the second decade of the twentieth century than in the first, increased from 4,455,005 in 1911 to 5,435,734 in 1921, or 22·01 p.c. as compared with 18·05 p.c. The population of the continental United States increased between 1910 and 1920 from 91,972,266 to 105,710,620, an increase of 14·9 p.c., as compared with 21 p.c. in the preceding decade.

Considering now the Dominion of Canada itself, it becomes evident from Table 1 that in this country, as formerly in the United States, there is a distinct movement of population from East to West. In the decade from 1911 to 1921 there occurred in the four western provinces an increase of population from 1,720,601 to 2,480,664 or 44·2 p.c., while the five eastern provinces increased from 5,471,023 to 6,295,189, an increase of 824,166 persons, which, though absolutely larger than the figure for the West, constitutes an increase of only 15 p.c. over the 1911 population. The same conclusion may be deduced from Table 2, which shows that while in 1871 only 2·96 p.c., and in 1881 only 3·88 p.c. of the population of the country dwelt west of the lake of the Woods, the percentage in 1891 was 7·24, in 1901 12·02, in 1911 24·09, and in 1921 28·37. On the other hand, the three eastern Maritime Provinces, which in 1871 contained 20·80 p.c. of the population of the Dominion, had in 1881 20·14 p.c., in 1891 18·22 p.c., in 1901 16·64 p.c., in 1911 13·01 p.c., and in 1921 only 11·38 p.c. of the population. Ontario and Quebec—the old pre-Confederation Province of Canada—still remain the chief centre of population, their population being in 1921 60·25 p.c. of the total, as compared with 76·24 p.c. in 1871, 75·98 p.c. in 1881, 74·54 p.c. in 1891, 71·34 p.c. in 1901 and 62·90 p.c. in 1911. In other words, the net result of the half century was that in 1921 only three-fifths of the population of the Dominion lived in these provinces, as compared with more than three-fourths in 1871.

In 1881 the "centre" of population east and west was in the county of Prescott, Ontario, not far from Caledonia village. In 1891 it had moved west to the vicinity of Ottawa, where it remained in 1901. In 1911 the county of Victoria, Ontario, contained the centre, and it was in Parry Sound district, Ontario, in 1921.

The populations of the several provinces and electoral districts of Canada, as these districts existed in 1921, were given on pp. 87-91 of the 1925 Year Book, while the 1921 populations of the electoral districts as constituted after the redistribution of 1924 will be found at pp. 100-104 of this volume, together with the names of their representatives in the seventeenth Parliament. Populations for smaller areas (sub-districts, etc.) are given in the great table extending from p. 11 to p. 218 of Vol. I of the Census of 1921.

Organization for the Census of 1931. As of June 1, 1931, a new census of the Dominion will have been taken. The complex nature of the task and the great and growing importance of census results in the general machinery of government combine to make the operation one of paramount importance.

The complete co-operation of the people is essential to a good census and to this end a broad educational campaign has been undertaken in which the radio has, for the first time, played a part as a means of conveying an idea of the scope, methods and purpose of the census and its place in statistical and general administration. In a country like Canada where approximately one-third of the gainfully occupied population is employed in agriculture, the most expensive part of the census organization is that covering the thinly settled rural districts and it is advisable that when once the large organization which is necessary has been created it be made the most of. The peoples' institutions and offices as well as the people themselves will therefore be subjects of measurement.

The nucleus of the organization exists in a small permanent staff constituting one of the branches of the Bureau of Statistics. This branch maintains connection between census and census, so that experience is continuous and cumulative. It makes the detailed plans for taking the census and arranges for the necessary expansion of the personnel as required. In planning the field work the country is first divided into "Census Districts" each in charge of a "Census Commissioner." Districts are further divided into sub-districts varying in population from 600 to 800 persons in rural localities, and from 1,200 to 1,800 in urban centres. A sub-district is the territory allotted to a "Census Enumerator" who conducts the house-to-house or farm-to-farm canvass.

The 1931 census will employ about 260 Commissioners and upwards of 14,000 enumerators. The Commissioners are appointed by the Minister and instructed by an officer of the Bureau; on the other hand the enumerators are appointed and instructed by the Commissioners. All field officers are paid for the most part on a "piece" basis and are required to pass a practical test in the work before appointment.

For the actual compilation work an extra temporary staff of between 700 and 800 clerks will be engaged at Ottawa. All compilation is done by machinery. The numerous facts obtained for each individual are punched, by location, on a specially designed card. The sorting, counting and recording are then done mechanically.

While, as regards the field covered, the 1931 census follows the main lines of its predecessors, it has several important new features. Additional information will be obtained with regard to institutions such as hospitals, asylums, reformatories, child-welfare, etc., which will be useful in aiding in the solution of social problems that are becoming more pressing each year. The unemployment situation will also receive special attention, and new data regarding wholesale and retail trading activities will be gathered with the purpose of giving a bird's-eye view of the great problem of distribution, for the first time in Canada. The agricultural section of the Census will also be improved, commensurate with the part played by this all-important basic industry.

At the present time other countries both in Europe and America are putting forth strenuous efforts to ensure more comprehensive and accurate censuses and a tendency to increase the frequency of census taking, due to the increasing complexity of modern life, the greater demands on Governments, and the great need for comprehensive economic information upon which to base business and commercial policies is obvious.

Every effort is being made at the Dominion Bureau of Statistics to speed up the work of taking the 1931 census and of collating and analysing the results. First results for many cities, towns and counties should be available within three or four months after the count is taken. These will be published as soon as possible. In the meantime the 1921 figures are the latest, but as they will be superseded so soon, the contents of the present chapter have been reduced to a minimum, as explained under Section **2**, p. 132.

Density of Population.—The density of population in 1921 (*i.e.*, the number of persons per square mile of the land area as in that year), is shown by provinces and for the country as a whole in Table **5**. Generally speaking, the density of population decreases as one travels westward, but the enormous area of the province of Quebec (which, as calculated at that time, included the Labrador Coast area, subsequently awarded to Newfoundland) reduced the density of its population to the low figure of 3·42. As among the nine provinces, the density of population is greatest in Prince Edward Island and least in British Columbia.

5.—Density of Population in Canada, by Provinces and Territories, 1911 and 1921.

Province or Territory.	1911.	1921.	Province or Territory.	1911.	1921.
Prince Edward Island	42·91	40·56	Saskatchewan	2·02	3·12
Nova Scotia	23·37	24·86	Alberta	1·48	2·33
New Brunswick	12·61	13·90	British Columbia	1·11	1·48
Quebec	2·90	3·42	Yukon Territory	0·04	0·02
Ontario	6·91	8·02	Northwest Territories	0·005	0·006
Manitoba	1·99	2·63	**Canada**	**1·97**	**2·41**

Elements of Growth.—The former lack of comprehensive and comparable vital statistics for the whole of Canada, together with the lack of statistics of emigration, makes it difficult to determine how far the growth of population since the commencement of the twentieth century is due to natural increase and how far to immigration. The following estimate (Table **6**) may, however, be of interest. During the last decade, in addition to some 60,000 Canadians who died overseas and nearly 20,000 who took their discharge in the United Kingdom, there were also great numbers of residents of Canada—most of them recent immigrants—who left Canada to join the forces of the Mother Country and her allies in the Great War and did not return. The estimated figure given for emigration in the decade 1911-1921 may therefore be regarded as of a distinctly abnormal character.

6.—Movement of Population, including Estimated Natural Increase, Recorded Immigration and Estimated Emigration, for the intercensal periods 1901-1911 and 1911-1921.

Decade and Item.	No.
Decade 1901-1911—	
Population, Census of April 1, 1901	5,371,315
Natural increase (1901-1911), estimated	853,566
Immigration (April 1, 1901, to May 31, 1911)	1,847,651
Total	8,072,532
Population, Census of June 1, 1911	7,206,643
Emigration (April 1, 1901, to May 31, 1911), estimated	865,889
Decade 1911-1921—	
Population, Census of June 1, 1911	7,206,643
Natural increase (1911-1921), estimated	1,150,659
Immigration (June 1, 1911, to May 31, 1921)	1,728,921
Total	10,086,223
Population, Census of June 1, 1921	8,788,483
Emigration (June 1, 1911, to May 31, 1921), estimated	1,297,740[1]
Net gain in population, 1901-1911	1,835,328
Net gain in population, 1911-1921	1,581,840

[1] This figure includes also the 60,000 Canadian lives lost at the front and the soldiers (about 20,000) enlisting in the Canadian forces and receiving their discharge in the United Kingdom.

Annual Estimates of Population.—While the populations in different countries are actually counted at decennial or quinquennial censuses, annual estimates of populations are required by modern states for many purposes, such as the calculation of birth, death and marriage rates, and of per capita figures of production, trade, finance, consumption, etc. In different countries various methods of obtaining annual figures of postcensal populations are adopted. For example, in countries so far distant from the other civilized countries of the world as Australia and New Zealand, it is possible, with good vital statistics and records of the comparatively few arrivals and departures, to obtain the actual population at any particular date with approximate accuracy by the simple method of adding births and arrivals and subtracting deaths and departures during the period elapsed since the census. For Canada, on account of her 4,000 miles of common boundary line with the United States, crossed every day by many thousands of people in both directions, this method is impracticable; consequently our annual figure of population must be an estimate pure and simple. This indeed is the case in almost all civilized countries, though their methods of making the estimates vary.

Thus, the method of arithmetical progression is widely used in estimating the populations in the older countries of the world, and also in the United States; this method involves the annual addition to the population of the country and of particular areas within it of one-fifth or one-tenth of the numerical increase in the last quinquennial or decennial intercensal period. This method is not yet applicable to Canada, where immigration is still relatively but variably heavy and the growth of population rapid. The method of geometrical progression, involving the addition each year to the population of a certain percentage of the population at the commencement of that year, is also generally inapplicable to Canada, as in only two decades since 1871 has the application of this method given approximately accurate results.

In making the estimates of Canadian population, the Bureau of Statistics has adopted the method of fitting a series of curves to the populations of the different provinces, as ascertained at the six decennial censuses since 1871, using the curve which is found on trial to fit the population-history of the province, and adding the results for the provinces to obtain the population of the Dominion.

The estimated population of each province for each year from 1924 to 1930 is given in Table 7. (Estimates for the years 1922 and 1923 will be found at p. 95 of the 1929 Year Book.) The mathematical formulæ used in obtaining the estimate for each province, may be obtained on application to the Dominion Statistician. These formulæ are merely general expressions of long trends of past growth in each province and estimates based upon them are reliable only to the extent that these trends continue uniformly into the future. In such a table of normal growth, good years are not credited with their full addition to the population, while bad years receive more credit than is their due. Nevertheless, the table is believed to represent approximately the broad facts of the situation.

7.—Census Population of Canada, by Provinces, as at June 1, 1921, with Estimated Populations as at June 1, 1924-1930.[1]

Province.	Census Population, 1921.	Estimated Populations.						
		1924.	1925.	1926.	1927.	1928.	1929.	1930.
P. E. I.	88,615	87,700	87,300	87,000	86,700	86,400	86,100	85,800
Nova Scotia	523,837	533,600	536,900	540,000	543,000	547,000	550,400	553,900
New Brunswick	387,876	399,400	403,300	407,200	411,000	415,000	419,300	423,400
Quebec	2,361,199	2,480,000	2,520,000	2,561,800	2,604,000	2,647,000	2,690,400	2,734,600
Ontario	2,933,662	3,052,000	3,103,000	3,145,600	3,187,000	3,229,000	3,271,300	3,313,000
Manitoba	610,118	626,800	632,400	639,056[2]	647,000	655,000	663,200	671,500
Saskatchewan	757,510	796,800	809,900	820,738[2]	836,000	851,000	866,700	882,000
Alberta	588,454	599,600	603,300	607,599[2]	617,000	631,900	646,000	660,000
British Columbia	524,582	553,000	560,500	568,400	575,000	583,000	591,000	597,000
Yukon	4,157	3,550	3,500	3,450	3,470	3,500	3,000	3,700
N. W. T.	7,988	8,490	8,600	8,850	9,050	9,200	9,400	9,600
Canada	8,788,483[3]	**9,150,940**	**9,268,700**	**9,389,693**	**9,519,220**	**9,658,000**	**9,796,800**	**9,934,500**

[1] For estimated population of Canada in each year back to 1867, see Table **6** in Chapter XXI.
[2] Figures of the quinquennial census of the Prairie Provinces, 1926.
[3] Including personnel of Royal Canadian Navy, 485.

Section 2.—Other Census Data and Special Analyses.

In previous editions of the Canada Year Book from 1921 to 1930, the data collected at the census of 1921 and at preceding censuses have been summarized and analyzed under the following headings of sections:—

Section 2—Sex Distribution.
Section 3—Conjugal Conditions.
Section 4—Dwellings and Family Households.
Section 5—Age Distribution.
Section 6—Nationality and Citizenship.
Section 7—Birthplaces.
Section 8—Racial Origin.
Section 9—Religions.
Section 10—Rural and Urban Population.
Section 11—Literacy.
Section 12—School Attendance.
Section 13—Mother Tongue and Language Spoken.
Section 14—Occupations of the People.
Section 15—Blind and Deaf-Mutes.
Section 16—Quinquennial Census of the Prairie Provinces.
Section 17—Population of the British Empire.
Section 18—Land Area and Population of the World.

The above sections have been dropped from this edition for the reason that no new data are at present available. It is expected that the next Year Book will contain considerable material dealing with the census of 1931.

The omitted sections will be found between pages 99 and 129 of the 1930 Year Book, reference being made therein to the more extended treatments in the census volumes or in preceding editions of the Year Book.

CHAPTER V.--VITAL STATISTICS.[1]

The collection of vital statistics commenced in Canada, as in England, with the registration of baptisms, marriages and burials by the ecclesiastical authorities. These registers, maintained by the priests from the first settlement of the country, have made it possible for the vital statistics of the French colony to be compiled from the year 1610.[2] In the beginning, only one copy of such records was made, but in 1678 the Sovereign Council of Quebec ordered that in future such records should be made in duplicate, and that one copy, duly authenticated, should be delivered to the civil authorities. This arrangement was continued after the cession of the country to Great Britain, and was extended to the newly-formed Protestant congregations by an Act of 1795, but the registration among these latter remained seriously defective, both in Lower Canada and in the new province of Upper Canada.

In English-speaking Canada, vital statistics were from the commencement incomplete, the pioneer settlers often going out into the wilds far from the authority of government and the ministrations of religion. While a law existed in Upper Canada requiring ministers of religion to deposit duplicates of their registers of baptisms, marriages and deaths with the clerks of the peace for transmission to the Provincial Secretary, this law remained practically a dead letter. Again, the efforts made to secure records of births and deaths at the censuses of 1851 and 1861 produced most unsatisfactory and even ridiculous results, as was pointed out by Dr. J. C. Taché, Secretary of the Board of Registration and Statistics, in a memorial published in the report of the Canadian Minister of Agriculture for 1865. Nevertheless, in spite of the inherent unsoundness of securing at a point of time in a decennial census a record of births and deaths occurring over a considerable period of time, this method was persisted in down to 1911, when the obviously untrustworthy character of the results obtained led to the discarding of the data obtained at the inquiry.

The Dominion Government instituted in the early '80's a plan for compiling the annual mortuary statistics of cities of 25,000 population and over, by subsidizing local boards of health to supply the information under special regulations. A beginning was made with the five cities of Montreal, Toronto, Hamilton, Halifax and Saint John. By 1891 the list had grown to 25, at a time when in most of the provinces the only birth and death statistics were those of the municipalities. Upon the organization of provincial bureaus of vital statistics, however, this work was abandoned, though a conference of Dominion and provincial officials, held in 1893, passed a resolution calling upon the provincial and Dominion authorities to co-operate in the work of collecting, compiling and publishing the vital statistics of the Dominion. This resolution had no immediate practical results in securing accurate or comparable vital statistics.

Since Confederation each of the provinces of the Dominion has enacted its own legislation on vital statistics and administered such legislation according to its own individual methods. While the vital statistics of Ontario were published in considerable detail annually from 1871, the arrangements for the collection of data were unsatisfactory. Only in 1906 was the publication of vital statistics begun in Prince Edward Island (no report for 1912 was ever issued), and in Nova Scotia the publication of vital statistics dates only from 1909. Because of the *lacunæ,* and even more because of the incomparability of information collected, of methods of collection and of standard of enforcement, Canadian vital statistics remained extremely unsatisfactory and impossible of compilation on a national basis, as was pointed out by the 1912 Commission on Official Statistics, which recommended that " for the Dominion, now engaged in building up its national unity, it is important that uniform data should render possible to statisticians the institution of true interprovincial and international comparisons. By effective co-operation of the provinces with the Dominion, this object should be capable of attainment without sacrificing the liberty of each province to satisfy its own special statistical requirements ".

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[1] This chapter has been revised by E. S. Macphail, Chief, Demography Branch, Dominion Bureau of Statistics. A list of the publications of this Branch will be found in Chapter XXVIII, Section I, under "Population."

[2] For a summary of the vital statistics of the Roman Catholic population from 1610 to 1883, see the Statistical Year Book of Quebec, 1921, English or French edition, p. 51. For details by years of this movement of population, see Vol. V of the Census of Canada, 1871 pp. 160-265, and Vol. IV of the Census of Canada, 1881, pp. 134-145.

The scheme of co-operation, thus outlined, was brought into effect as a consequence of the establishment of the Dominion Bureau of Statistics under the Statistics Act of 1918, which specifically provided that the Bureau should publish an annual report on vital statistics. A scheme was first drawn up in the Bureau and submitted to the various provinces; then Dominion-Provincial conferences on vital statistics were held in June and December, 1918, when comprehensive and final discussions took place.

At the conferences of 1918, it was agreed:—(1) that the model Vital Statistics Act prepared by the Dominion Bureau of Statistics, when accepted by the Legislatures, should form the basis of the vital statistics legislation of the several provinces, thus securing uniformity and comparability; (2) that the provinces should undertake to obtain the returns of births, marriages and deaths on the prescribed forms as approved and adopted at the conference, the Dominion Bureau of Statistics to supply the forms free of charge; (3) that the provinces should forward to the Dominion Bureau of Statistics, at such times as might be agreed upon, either the original returns of births, marriages and deaths, or certified transcriptions of the same; the Bureau of Statistics to undertake the mechanical compilation and tabulation.

Under the scheme outlined above, the vital statistics for all the provinces except Quebec were secured and compiled on a uniform basis for the years 1921 to 1925. The annual reports for these years may be obtained on application to the Dominion Statistician.

Quebec has been included in the registration area as from Jan. 1, 1926, from which date her statistics are on a comparable basis with those of the other provinces. The final reports for 1926, 1927 and 1928 and a preliminary report for 1929, including the statistics of all the nine provinces, have appeared and may be procured from the Dominion Statistician.[1]

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[1] The vital statistics of the Yukon and Northwest Territories are duly collected and analysed, but are not presented with those of the nine provinces because the figures are not regarded as complete, the details are in many cases not available and the small and varying population is not known with sufficient accuracy for each year to enable the rates to be calculated. As these Territories contain only about 1/700th of the population of Canada, their vital statistics are a negligible factor in the total. See page 160 for their figures for 1928.

Two important considerations should be borne in mind by the students who use either these tables or the detailed reports for comparative purposes.

First, in spite of the improvements of the past decade, registration generally, and the registration of births in particular, is not universally carried out. The great extent of the country and the isolation of many of its inhabitants partly account for this unsatisfactory situation.

Secondly, the great differences in the age and sex distribution of the population in different provinces, as shown by the census of 1921, make comparisons (of crude birth rates, for instance) as among the provinces unfair and misleading. For instance, in British Columbia in 1921 there were only 773 females of ages 15 to 44 to every 1,000 males of these ages, while in Quebec there were 1,017 and in Prince Edward Island 986. Evidently, in view of the great disproportion between the sexes in British Columbia, the crude birth rate per 1,000 of population in that province cannot properly be compared with the crude birth rate in Quebec, Prince Edward Island or New Brunswick. Again, in consequence of different age distributions of population in the different provinces—the Prairie Provinces, for instance, have very young populations because of the healthy young immigrants whom they attract—a comparison of crude death rates of the provinces is apt to be misleading. In the Prairie Provinces, taken together, only 126 per 1,000 of the 1911 population and 149 per 1,000 of the 1921 population had passed 45 years of age, while in Quebec 178, in Ontario 233 and in Prince Edward Island 264 per 1,000 of the population were in 1921 over 45 years of age. These latter provinces, having much larger proportions of persons of advanced ages, will inevitably have higher crude death rates per 1,000 of population than the Prairie Provinces. A table showing the death rate as adjusted on the basis of the English "standard million" of 1901 has therefore been included (Table **23**).

The natural increase of the population of Canada is first dealt with, followed by detailed tables of births, marriages and deaths in the order named.

Section 1.—Natural Increase.

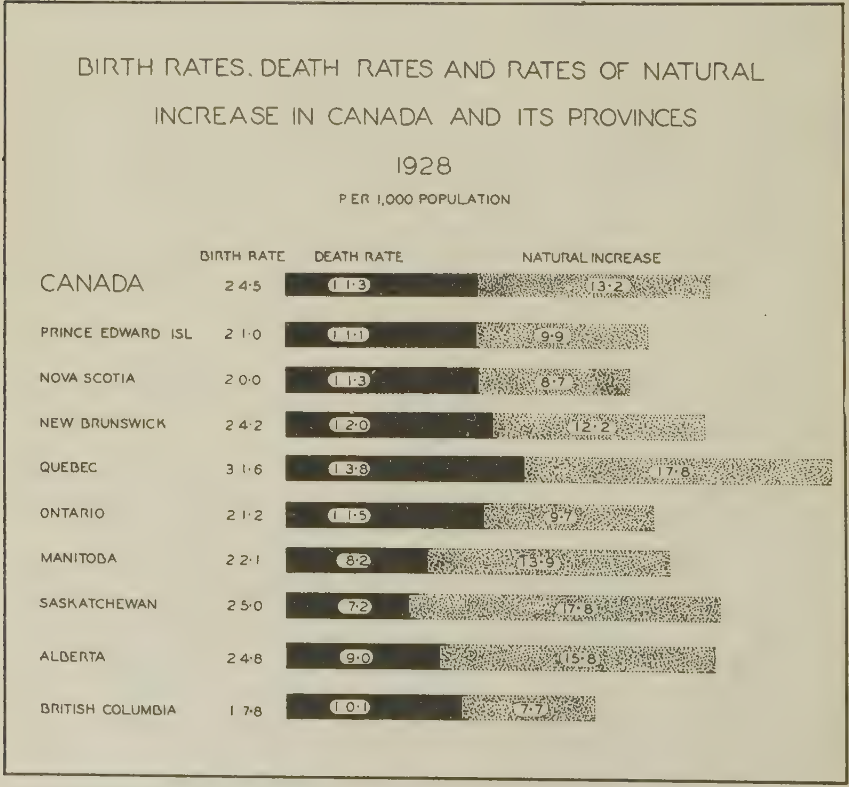
Summary statistics of the births, marriages, deaths and natural increase per 1,000 of population are given for the years 1924 to 1929 by provinces in Table **1**. The figures for 1929 are subject to revision.

The province of Quebec has one of the highest rates of natural increase per 1,000 population in any civilized country but in three of the four years since 1925 Saskatchewan has outranked Quebec in this respect, owing to its younger population and lower crude death rate, as will be seen from the figures. The high rates of natural increase in Quebec and Saskatchewan brought the average for Canada (exclusive of the Territories) up to 17·9 per 1,000 in 1921, 16·6 in 1922, 14·8 in 1923, 15·8 in 1924, 15·3 in 1925, 13·3 in 1926, 13·5 in 1927, 13·2 in 1928 and 12·4 in 1929. The rate of natural increase in 1928 was 11·8 per 1,000 in Australia, 11·1 in New Zealand, 5·0 in England and Wales, 6·5 in Scotland and 5·9 in the Irish Free State, so that Canada compares quite favourably with other British countries.

The rates of natural increase per 1,000 of mean population for other countries in the latest years are as follows, the figures being for 1928 unless otherwise stated: Denmark, 8·6; Japan, 14·5; Netherlands, 13·7; Norway, 7·4; Finland, 8·0; Italy, 11·2 (1927); Switzerland, 5·3; Sweden, 4·2; Spain, 11·3; France, 1·8; Belgium, 5·1; United States (registration area), 7·7; Union of South Africa (whites), 15·7.

It will be noticed that the natural increase of the population of Canada has shown some tendency to decline in recent years. The decrease to 121,465 shown by the unrevised figures for 1929 gives a rate of 12·4 per 1,000 of the estimated population, which is a sharp decline from the rate of 13·2 for 1928.

Statistics of the births, marriages, deaths and natural increase in cities of 10,000 and over are given for the calendar year 1928 in Table **2**, but these are not worked out as rates per 1,000 of population, though the census population in 1921, which is also given, furnishes some guide to the rate of natural increase. Particularly notable in this table is the very large number of births in such cities as Montreal and Quebec, as compared with Toronto, Hamilton, Ottawa and other cities of somewhat corresponding size. This greatly higher birth rate is in part counterbalanced by a considerably higher death rate, but the natural increase in Quebec cities is still considerably higher than in the cities of other provinces.



1.—Summary of Births, Marriages, Deaths and Natural Increase, by Provinces, for the calendar years 1924-1929.

Note.—All figures for 1929 are subject to revision. Birth, marriage and death rates are calculated for 1924-1929 on estimated populations, except that for 1926 the figures of the quinquennial census of the Prairie Provinces are used for these provinces. Figures for 1921, 1922 and 1923 will be found at p. 160 of the 1927-28 Year Book.

Province.	Year.	Births.	Birth Rate per 1,000 Population.	Marriages.	Marriage Rate per 1,000 Population.	Deaths.	Death Rate per 1,000 Population.	Excess of Births over Deaths.	Rate of Natural Increase per 1,000 Population.
P. E. Island	1924	1,858	21·1	408	4·6	956	10·9	902	10·2
	1925	1,675	19·3	407	4·7	997	11·5	678	7·8
	1926	1,752	20·1	459	5·3	898	10·3	854	9·8
	1927	1,697	19·5	482	5·5	913	10·5	784	9·0
	1928	1,806	21·0	466	5·4	952	11·1	854	9·9
	1929	1,668	19·4	469	5·5	1,122	13·0	546	6·4
Nova Scotia	1924	11,801	22·1	2,999	5·6	6,583	12·3	5,218	9·8
	1925	11,400	21·2	2,954	5·5	6,045	11·3	5,355	9·9
	1926	10,980	20·3	2,861	5·3	6,366	11·8	4,614	8·5
	1927	11,134	20·5	3,042	5·6	6,378	11·7	4,756	8·8
	1928	10,931	20·0	3,256	6·0	6,202	11·3	4,729	8·7
	1929	10,672	19·4	3,510	6·4	6,657	12·1	4,015	7·3
New Brunswick	1924	10,717	26·9	2,972	7·4	4,923	12·3	5,794	14·6
	1925	10,949	27·2	2,908	7·2	4,960	12·3	5,989	14·9
	1926	10,340	25·4	2,938	7·2	5,002	12·3	5,338	13·1
	1927	10,479	25·5	2,887	7·0	4,902	11·9	5,577	13·6
	1928	10,047	24·2	3,146	7·6	4,972	12·0	5,075	12·2
	1929	10,224	24·4	3,117	7·4	5,213	12·4	5,011	12·0
Ontario	1924	71,510	23·4	24,038	7·9	33,078	10·8	38,432	12·6
	1925	70,122	22·6	23,074	7·4	33,960	10·9	36,162	11·7
	1926	67,617	21·5	23,632	7·5	35,909	11·4	31,708	10·1
	1927	67,671	21·2	24,677	7·7	34,775	10·9	32,896	10·3
	1928	68,510	21·2	25,728	8·0	37,128	11·5	31,382	9·7
	1929	68,411	20·9	27,605	8·4	38,102	11·6	30,309	9·3
Manitoba	1924	15,454	24·6	4,132	6·6	5,023	8·0	10,431	16·6
	1925	14,867	23·5	4,377	6·9	5,245	8·3	9,622	15·2
	1926	14,661	22·9	4,537	7·1	5,335	8·3	9,326	14·6
	1927	14,147	21·9	4,716	7·3	5,309	8·2	8,838	13·7
	1928	14,504	22·1	5,170	7·9	5,396	8·2	9,108	13·9
	1929	14,236	21·5	5,269	7·9	5,808	8·8	8,428	12·7
Saskatchewan	1924	21,539	27·0	4,792	6·0	5,772	7·2	15,767	19·8
	1925	20,582	25·4	4,909	6·1	5,628	6·9	14,954	18·5
	1926	20,716	25·2	5,483	6·7	6,060	7·4	14,656	17·8
	1927	21,015	25·1	5,733	6·9	6,031	7·2	14,984	17·9
	1928	21,261	25·0	6,701	7·9	6,166	7·2	15,095	17·8
	1929	21,310	24·6	6,535	7·5	6,707	7·7	14,603	16·9
Alberta	1924	14,597	24·4	4,159	6·9	4,858	8·1	9,739	16·3
	1925	14,924	24·7	4,355	7·2	4,697	7·8	10,227	16·9
	1926	14,456	23·8	4,503	7·4	5,159	8·5	9,297	15·3
	1927	14,897	24·1	4,707	7·6	5,059	8·2	9,838	15·9
	1928	15,692	24·8	5,776	9·1	5,699	9·0	9,993	15·8
	1929	16,748	25·9	5,999	9·3	6,234	9·7	10,514	16·2
British Columbia	1924	10,119	18·3	4,038	7·3	5,004	9·0	5,115	9·3
	1925	10,342	18·4	4,223	7·5	4,945	8·8	5,397	9·6
	1926	10,063	17·7	4,418	7·8	5,474	9·6	4,589	8·1
	1927	10,084	17·5	4,720	8·2	5,750	10·0	4,334	7·5
	1928	10,385	17·8	4,942	8·5	5,910	10·1	4,475	7·7
	1929	10,266	17·4	5,151	8·7	6,386	10·8	3,880	6·6
Canada (Registration Area) (As from 1921-25).	**1924**	**157,595**	**23·7**	**47,538**	**7·1**	**66,197**	**9·9**	**91,398**	**13·8**
	1925	**154,861**	**23·0**	**47,217**	**7·0**	**66,477**	**9·9**	**88,384**	**13·1**
	1926	**150,585**	**22·1**	**48,831**	**7·2**	**70,203**	**10·3**	**80,382**	**11·8**
	1927	**151,124**	**21·9**	**50,964**	**7·4**	**69,117**	**10·0**	**82,007**	**11·9**
	1928	**153,136**	**21·9**	**55,185**	**7·9**	**72,425**	**10·3**	**80,711**	**11·6**
	1929	**153,535**	**21·6**	**57,655**	**8·1**	**76,229**	**10·7**	**77,306**	**10·9**
Quebec [1]	1924	86,930	33·3	17,591	6·7	32,356	12·4	54,574	20·9
	1925	87,527	33·1	17,427	6·5	32,300	12·2	55,227	20·9
	1926	82,165	32·1	17,827	7·0	37,251	14·5	44,914	17·6
	1927	83,064	31·9	18,551	7·1	36,175	13·9	46,889	18·0
	1928	83,621	31·6	19,126	7·2	36,632	13·8	46,989	17·8
	1929	81,380	30·3	19,610	7·3	37,221	13·8	44,159	16·5
Canada (exclusive of the Territories).	**1924**	**244,525**	**26·4**	**65,129**	**7·0**	**98,553**	**10·6**	**145,972**	**15·8**
	1925	**242,388**	**25·8**	**64,644**	**6·9**	**98,777**	**10·5**	**143,611**	**15·3**
	1926	**232,750**	**24·8**	**66,658**	**7·1**	**107,454**	**11·5**	**125,296**	**13·3**
	1927	**234,188**	**24·6**	**69,515**	**7·3**	**105,292**	**11·1**	**128,896**	**13·5**
	1928	**236,757**	**24·5**	**74,311**	**7·7**	**109,057**	**11·3**	**127,700**	**13·2**
	1929	**234,915**	**24·0**	**77,265**	**7·9**	**113,450**	**11·6**	**121,465**	**12·4**

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[1] Rates for Quebec have been calculated on provincial estimates of population for 1924 and 1925, and on the Dominion estimate of population for 1926-29.

2.—Summary of Births, Marriages, Deaths and Natural Increase, in Cities of 10,000 and over, for the calendar year 1928.

Province and City.	Census Population, 1921.	Births.	Marriages.	Deaths.	Excess of Births over Deaths.
P. E. Island—					
Charlottetown	10,814	273	145	278	−5
Nova Scotia—					
Halifax	58,372	1,425	619	837	588
Sydney	22,545	484	198	245	239
Glace Bay	17,007	681	159	256	425
New Brunswick—					
Saint John	47,166	1,083	448	710	373
Moncton	17,488	482	207	276	206
Quebec—					
Montreal	618,506	20,252	6,726	11,936	8,316
Quebec	95,193	4,473	972	2,313	2,160
Verdun	25,001	1,058	325	441	617
Hull	24,117	999	254	369	630
Sherbrooke	23,515	753	213	467	286
Three Rivers	22,367	1,444	258	556	888
Westmount	17,593	42	193	128	−86
Lachine	15,404	464	121	240	224
Outremont	13,249	109	85	84	25
St. Hyacinthe	10,859	315	122	281	34
Shawinigan Falls	10,625	703	80	218	485
Lévis	10,470	313	62	227	86
Ontario—					
Toronto	521,893	12,342	7,058	6,962	5,380
Hamilton	114,151	3,007	1,327	1,471	1,536
Ottawa	107,843	3,003	962	1,645	1,358
London	60,959	1,438	711	1,122	316
Windsor	38,591	1,681	896	689	992
Brantford	29,440	711	309	403	308
Kitchener	21,763	751	319	293	458
Kingston	21,753	576	230	445	131
Sault Ste. Marie	21,092	627	276	228	399
Fort William	20,541	664	255	211	453
Peterborough	20,994	558	237	305	253
St. Catharines	19,881	570	259	331	239
Guelph	18,128	362	214	241	121
Stratford	16,094	401	132	199	202
St. Thomas	16,026	341	159	214	127
Port Arthur	14,886	558	240	222	336
Sarnia	14,877	426	134	216	210
Niagara Falls	14,764	445	247	220	225
Chatham	13,256	494	189	306	188
Galt	13,216	266	104	181	85
Belleville	12,206	371	163	239	132
Owen Sound	12,190	368	122	172	196
Oshawa	11,940	703	267	227	476
North Bay	10,692	435	159	129	306
Brockville	10,043	217	81	171	46
Manitoba—					
Winnipeg	179,087	4,552	2,795	1,808	2,744
Brandon	15,397	419	217	242	177
St. Boniface	12,821	829	140	465	364
Saskatchewan—					
Regina	34,432	1,363	825	520	843
Saskatoon	25,739	1,045	823	498	547
Moose Jaw	19,285	617	336	235	382
Alberta—					
Calgary	63,305	1,752	1,239	814	938
Edmonton	58,821	2,149	1,362	861	1,288
Lethbridge	11,097	416	293	199	217
British Columbia—					
Vancouver	117,217	3,812	2,347	2,201	1,611
Victoria	38,727	723	330	558	165
New Westminster	14,495	535	271	297	238

Natural Increase by Sex.—According to Table 3, the number of male children born in 1928 in Canada exceeded the total male deaths for the year by 63,025, while the gain in the female population during the same period was 64,675. Thus, while the number of male children born exceeded the females by 6,253, the higher mortality among males, *viz.*, 58,480 as compared with 50,577, resulted in a net excess of the natural increase of the females amounting to 1,650. Provisional figures for 1929 are as follows: males, births 120,622, deaths 60,880, natural increase 59,742; females, births 114,293, deaths 52,570, natural increase 61,723.

3.—Excess of Births over Deaths in Canada, by Provinces and for each Sex, 1928, with Totals for 1921-1928.

Province.	Males.			Females.			Both Sexes.
	Births.	Deaths.	Excess of Births over Deaths	Births.	Deaths.	Excess of Births over Deaths.	Excess of Births over Deaths.
Prince Edward Island..	947	495	452	859	457	402	854
Nova Scotia...........	5,533	3,339	2,194	5,398	2,863	2,535	4,729
New Brunswick........	5,152	2,654	2,498	4,895	2,318	2,577	5,075
Quebec................	43,019	19,036	24,013	40,572	17,596	22,976	46,989
Ontario................	35,299	19,457	15,842	33,211	17,671	15,540	31,382
Manitoba..............	7,282	3,029	4,253	7,222	2,367	4,855	9,108
Saskatchewan..........	10,983	3,485	7,498	10,278	2,681	7,597	15,095
Alberta................	8,091	3,322	4,769	7,601	2,377	5,224	9,993
British Columbia......	5,169	3,663	1,506	5,216	2,247	2,969	4,475
Totals, 1928............	**121,505**	**58,480**	**63,025**	**115,252**	**50,577**	**64,675**	**127,700**
Totals, 1927............	**120,655**	**56,265**	**64,390**	**113,533**	**49,027**	**64,506**	**128,896**
Totals, 1926............	**119,863**	**56,979**	**62,884**	**112,887**	**50,475**	**62,412**	**125,296**
Totals, 1925............	**124,686**	**52,450**	**72,236**	**117,702**	**46,327**	**71,375**	**143,611**
Totals, 1924............	**125,590**	**52,227**	**73,363**	**118,935**	**46,326**	**72,609**	**145,972**
Totals, 1923............	**124,003**	**55,490**	**68,513**	**116,473**	**49,840**	**66,633**	**135,146**
Totals, 1922............	**129,055**	**54,505**	**74,550**	**123,516**	**47,982**	**75,534**	**150,084**
Totals, 1921............	**133,839**	**53,685**	**80,154**	**123,889**	**47,470**	**76,419**	**156,573**

Section 2.—Births.

Throughout almost the whole of the civilized world, the birth rate has in the past generation been on the decline, though the consequent decline in the rate of natural increase has to a considerable extent been lessened by the synchronous decline in the death rate.

The crude birth rate of England and Wales, for example, was 35·4 per 1,000 population on the average of the decennium 1871-80, 32·5 in 1881-90 and 29·9 in 1891-1900. In 1913 the birth rate was 24·1, and, though it rose to 25·5 in 1920, it fell again to 22·4 in 1921, 19·7 in 1923, 18·8 in 1924, 18·3 in 1925, 17·8 in 1926, 16·6 in 1927 and 16·7 in 1928.

Similarly, in France the crude birth rate declined from an average of 25·4 per 1,000 population in the 1870's, 23·9 in the 1880's and 22·2 in the 1890's to 21·4 in 1920 and 19·1 in 1923, rising slightly to 19·0 in 1925 and falling to 18·8 in 1926, 18·2 in 1927 and 18·2 in 1928. In Germany, again, the crude birth rate was 39·1 in the 1870's, 36·8 in the 1880's, 36·1 in the 1890's, 23·0 in 1922, 20·7 in 1925, 19·5 in 1926, 18·4 in 1927 and 18·6 in 1928.

In Canada the crude birth rate still stands at the comparatively high figure of 24·0 per 1,000 in 1929. This, however, is largely due to the influence of Quebec, where the birth rate stood at the very high figure of 30·3 per 1,000 in 1929, as compared with 20·9 per 1,000 in Ontario. In the other provinces the figures varied from 17·4 per 1,000 in British Columbia to 25·9 in Alberta.

Statistics of births and birth rates for the years 1921-29 are given by provinces in Table **4**, the provincial figures both of births and birth rates for Quebec being used for the years 1921-25, so as to show national totals. The figures for 1929 are subject to revision.

4.—Number of Living Births and Birth Rates, by Provinces, 1921-1929.

A. LIVING BIRTHS.

Year.	P.E.I.	N.S.	N.B.	Que.[1]	Ont.	Man.	Sask.	Alta.	B.C.	Former Registration Area.	Canada.[2]
1921	2,156	13,021	11,465	88,749	74,152	18,478	22,493	16,561	10,653	168,979	257,728
1922	2,160	12,693	11,564	88,377	71,430	17,679	22,339	16,163	10,166	164,194	252,571
1923	1,977	11,680	10,704	83,579	70,056	16,472	20,947	15,060	10,001	156,897	240,476
1924	1,858	11,801	10,717	86,930	71,510	15,454	21,539	14,597	10,119	157,595	244,525
1925	1,675	11,400	10,949	87,527	70,122	14,867	20,582	14,924	10,342	154,861	242,388
1926	1,752	10,980	10,340	82,165	67,617	14,661	20,716	14,456	10,063	150,585	232,750
1927	1,697	11,134	10,479	83,064	67,671	14,147	21,015	14,897	10,084	151,124	234,188
1928	1,806	10,931	10,047	83,621	68,510	14,504	21,261	15,692	10,385	153,136	236,757
1929[3]	1,668	10,672	10,224	81,380	68,411	14,236	21,310	16,748	10,266	153,535	234,915

B. BIRTH RATE PER 1,000 POPULATION.

1921	24·3	24·9	30·2	37·6	25·3	30·3	29·7	28·1	20·3	26·4	29·4
1922	24·5	24·0	29·5	35·1	24·0	28·7	29·0	27·3	18·9	25·2	28·0
1923	22·5	22·0	27·0	32·3	23·2	26·5	26·8	25·3	18·4	23·9	26·3
1924	21·1	22·1	26·9	33·3	23·4	24·6	27·0	24·4	18·3	23·7	26·4
1925	19·3	21·2	27·2	33·1	22·6	23·5	25·4	24·7	18·4	23·0	25·8
1926	20·1	20·3	25·4	32·1	21·5	22·9	25·2	23·8	17·7	22·1	24·8
1927	19·5	20·5	25·5	31·9	21·2	21·9	25·1	24·1	17·5	21·9	24·6
1928	21·0	20·0	24·2	31·6	21·2	22·1	25·0	24·8	17·8	21·9	24·5
1929[3]	19·4	19·4	24·4	30·3	20·9	21·5	24·6	25·9	17·4	21·6	24·0

[1] Provincial figures 1921-25. [2] Exclusive of the Territories. [3] Figures subject to revision.

Table **5** gives the number of living births in cities of 10,000 population and over for the years 1926 to 1929 inclusive. The number of births reported for the cities shows in most cases an increase in recent years, but it appears likely that this is partly due to the increase of births to non-resident parents. The census of 1921 showed that infants under one year of age constituted 2·53 p.c. of the rural population and only 2·24 p.c. of the urban population.

Table 5.—Living Births in Cities of 10,000 Population and Over, 1926-1929.[1]

City.	1926.	1927.	1928.	1929.
Belleville, Ont	347	371	371	364
Brandon, Man	387	376	419	406
Brantford, Ont	610	647	711	712
Brockville, Ont	189	201	217	241
Calgary, Alta	1,538	1,641	1,752	2,001
Charlottetown, P.E.I	288	271	273	266
Chatham, Ont	436	453	494	472
Edmonton, Alta	1,858	1,940	2,149	2,264
Fort William, Ont	642	602	664	645

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[1] Living births in cities of 40,000 population and over, except Montreal and Quebec, are given for 1921 and subsequent years on p. 137 in the Canada Year Book of 1930.

Table 5.—Living Births in Cities of 10,000 Population and Over, 1926-1929—concluded.

City.	1926.	1927.	1928.	1929.
Galt, Ont	260	265	266	283
Glace Bay, N.S	602	666	681	667
Guelph, Ont	405	418	362	380
Halifax, N.S	1,359	1,494	1,425	1,452
Hamilton, Ont	2,774	2,866	3,007	3,166
Hull, Que	1,019	1,062	999	906
Kingston, Ont	525	594	576	618
Kitchener, Ont	689	688	751	808
Lachine, Que	426	440	464	464
Lethbridge, Alta	349	348	416	487
Lévis, Que	290	315	313	310
London, Ont	1,331	1,286	1,438	1,363
Moncton, N.B	522	499	482	566
Montreal, Que	19,650	19,458	20,252	20,622
Moose Jaw, Sask	649	626	617	628
New Westminster, B.C	506	491	535	537
Niagara Falls, Ont	455	492	445	499
North Bay, Ont	423	406	435	406
Oshawa, Ont	512	595	703	727
Ottawa, Ont	2,869	3,003	3,003	2,920
Outremont, Que	126	135	109	127
Owen Sound, Ont	317	297	368	376
Peterborough, Ont	535	545	558	617
Port Arthur, Ont	498	510	558	579
Quebec, Que	4,164	4,349	4,473	4,456
Regina, Sask	1,093	1,203	1,363	1,514
St. Boniface, Man	761	752	829	893
St. Catharines, Ont	592	577	570	565
St. Hyacinthe, Que	296	317	315	362
Saint John, N.B	1,097	1,166	1,083	1,149
St. Thomas, Ont	334	329	341	306
Sarnia, Ont	376	435	426	468
Saskatoon, Sask	909	962	1,045	1,137
Sault Ste. Marie, Ont	552	578	627	661
Shawinigan Falls, Que	620	670	703	642
Sherbrooke, Que	717	809	753	818
Stratford, Ont	366	372	401	376
Sydney, N.S	453	501	484	501
Toronto, Ont	11,185	11,448	12,342	12,477
Three Rivers, Que	1,234	1,327	1,444	1,289
Vancouver, B.C.[2]	3,543	3,651	3,812	3,823
Verdun, Que	996	1,007	1,058	1,095
Victoria, B.C	712	664	723	740
Westmount, Que	54	38	42	51
Windsor, Ont	2,122	2,088	1,681	1,654
Winnipeg, Man	4,495	4,506	4,552	4,452

[2] Though Point Grey and South Vancouver were not incorporated into Vancouver until Jan. 1, 1929, their statistics are included in the figures for Vancouver for the years 1926-28 for purposes of comparison.

Legitimate Birth Rates per 1,000 Married Women of Ages 15-44.—The test of birth rate most generally accepted by vital statisticians is applied by the comparison of the total number of legitimate births with the total number of married women between the ages of 15 and 44, though a small number of births occur where the mothers are either below 15 or past the 45th birthday. This test was applied to the registration area of Canada for 1921-24 in a table on p. 164 of the 1927-28 Year Book on the assumptions: (1) that the number of married women in the country increased proportionately to the estimated increase of the general population between 1921 and 1924, and (2) that the number of Canadian-born, of British-born and of foreign-born married women increased between 1921 and 1924 proportionately to the estimated increase of the general population.

Two points of great importance were brought out by the table: first, the substantial decline from 199 to 175·7 in the legitimate birth rate per 1,000 married women of ages 15 to 44 in the short period covered; secondly, the fact that in the then registration area as a whole, foreign-born married women had proportionately rather more children than Canadian-born and these considerably more children than British-born.

In Table **6** will be found for each of the provinces the percentages of legitimate children born alive to Canadian-born, British-born and foreign-born mothers respectively. It is noteworthy that children born to foreign-born mothers in 1928 outnumbered children born to Canadian-born mothers in the province of Alberta. For the Dominion as a whole, 72·5 p.c. of the children had Canadian-born mothers, 12·5 p.c. British-born mothers and 15·0 p.c. foreign-born mothers.

It is also significant that the percentage of legitimate children born alive to Canadian-born mothers increased between 1921 and 1928 from 42·3 p.c. to 52·0 p.c. in Manitoba, from 36·1 p.c. to 43·9 p.c. in Saskatchewan, from 30·0 p.c. to 38·0 p.c. in Alberta, and from 29·7 p.c. to 39·8 p.c. in British Columbia. Thus more and more of the children of the West are coming within the class of third generation Canadians.

6.—Percentages of Legitimate Children Born Alive to Canadian-born, British-born or Foreign-born Mothers, by Provinces, 1928.

Province.	Canadian-born.	British-born.	Foreign-born.
	p.c.	p.c.	p.c.
Prince Edward Island	95·9	2·3	1·8
Nova Scotia	86·0	10·1	3·9
New Brunswick	92·1	3·5	4·5
Quebec	92·6	2·5	4·9
Ontario	68·5	20·6	10·9
Manitoba	52·0	18·0	30·0
Saskatchewan	43·9	13·9	42·2
Alberta	38·0	18·0	44·1
British Columbia	39·8	33·7	26·5
Canada (exclusive of Territories)	**72·5**	**12·5**	**15·0**

Sex of Living Births.—Table 7 shows the number of living male and female births reported for each province in the registration area in the years 1924-29, together with the proportion of male to female births. Prince Edward Island and British Columbia are the only provinces in which female births have in certain years exceeded male births. The preliminary figures for 1929 indicate that among every 1,000 born, 513 were males and 487 females. In other words, there were 1,055 males born to every 1,000 females.

7.—Births (exclusive of Stillbirths) by Sex, and Ratio of Males to Females, for Canada and by Provinces, 1924-1929.

NOTE.—For corresponding figures for 1921-1923, see p. 165, Canada Year Book for 1927-28. The figures for 1929 are subject to revision.

Province.		Total.	Males.		Females.		Males to 1,000 Females.
			Number.	Per cent of Total.	Number.	Per cent of Total.	
Prince Edward Island	1924	1,858	928	49·9	930	50·1	998
	1925	1,675	877	52·4	798	47·6	1,099
	1926	1,752	887	50·6	865	49·4	1,025
	1927	1,697	890	52·4	807	47·6	1,103
	1928	1,806	947	52·4	859	47·6	1,102
	1929	1,668	856	51·3	812	48·7	1,054
Nova Scotia	1924	11,801	6,189	52·4	5,612	47·6	1,103
	1925	11,400	5,886	51·6	5,514	48·4	1,067
	1926	10,980	5,638	51·3	5,342	48·7	1,055
	1927	11,134	5,704	51·2	5,430	48·8	1,050
	1928	10,931	5,533	50·6	5,398	49·4	1,025
	1929	10,672	5,479	51·3	5,193	48·7	1,055
New Brunswick	1924	10,717	5,523	51·5	5,194	48·5	1,063
	1925	10,949	5,664	51·7	5,285	48·3	1,072
	1926	10,340	5,294	51·2	5,046	48·8	1,049
	1927	10,479	5,391	51·4	5,088	48·6	1,060
	1928	10,047	5,152	51·3	4,895	48·7	1,053
	1929	10,224	5,237	51·2	4,987	48·8	1,050
Ontario	1924	71,510	36,582	51·2	34,928	48·8	1,047
	1925	70,122	36,098	51·5	34,024	48·5	1,061
	1926	67,617	34,742	51·4	32,875	48·6	1,057
	1927	67,671	34,755	51·4	32,916	48·6	1,056
	1928	68,510	35,299	51·5	33,211	48·5	1,063
	1929	68,411	35,125	51·3	33,286	48·7	1,055
Manitoba	1924	15,454	7,804	50·5	7,650	49·5	1,020
	1925	14,867	7,634	51·3	7,233	48·7	1,055
	1926	14,661	7,598	51·8	7,063	48·2	1,076
	1927	14,147	7,434	52·5	6,713	47·5	1,107
	1928	14,504	7,282	50·2	7,222	49·8	1,008
	1929	14,236	7,330	51·5	6,906	48·5	1,061
Saskatchewan	1924	21,539	11,157	51·8	10,382	48·2	1,075
	1925	20,582	10,620	51·6	9,962	48·4	1,066
	1926	20,716	10,651	51·4	10,065	48·6	1,058
	1927	21,015	10,852	51·6	10,163	48·4	1,068
	1928	21,261	10,983	51·7	10,278	48·3	1,069
	1929	21,310	10,933	51·3	10,377	48·7	1,054
Alberta	1924	14,597	7,422	50·8	7,175	49·2	1,034
	1925	14,924	7,626	51·1	7,298	48·9	1,045
	1926	14,456	7,410	51·3	7,046	48·7	1,052
	1927	14,897	7,682	51·6	7,215	48·4	1,065
	1928	15,692	8,091	51·6	7,601	48·4	1,064
	1929	16,748	8,536	51·0	8,212	49·0	1,039
British Columbia	1924	10,119	5,203	51·4	4,916	48·6	1,058
	1925	10,342	5,329	51·5	5,013	48·5	1,063
	1926	10,063	5,168	51·4	4,895	48·6	1,056
	1927	10,084	5,134	50·9	4,950	49·1	1,037
	1928	10,385	5,169	49·8	5,216	50·2	991
	1929	10,266	5,233	51·0	5,033	49·0	1,040
Canada (Former Registration Area[1])	**1924**	**157,595**	**80,808**	**51·3**	**76,787**	**48·7**	**1,052**
	1925	**154,861**	**79,734**	**51·5**	**75,127**	**48·5**	**1,061**
	1926	**150,585**	**77,388**	**51·4**	**73,197**	**48·6**	**1,057**
	1927	**151,124**	**77,842**	**51·5**	**73,282**	**48·5**	**1,062**
	1928	**153,136**	**78,456**	**51·2**	**74,680**	**48·8**	**1,051**
	1929	**153,535**	**78,729**	**51·3**	**74,806**	**48·7**	**1,052**
Quebec[2]	1924	86,930	44,782	51·5	42,148	48·5	1,062
	1925	87,527	44,952	51·4	42,575	48·6	1,056
	1926	82,165	42,475	51·7	39,690	48·3	1,070
	1927	83,064	42,813	51·5	40,251	48·5	1,064
	1928	83,621	43,049	51·5	40,572	48·5	1,061
	1929	81,380	41,893	51·5	39,487	48·5	1,061
Canada (exclusive of the Territories)	**1924**	**244,525**	**125,590**	**51·4**	**118,935**	**48·6**	**1,056**
	1925	**242,388**	**124,686**	**51·4**	**117,702**	**48·6**	**1,059**
	1926	**232,750**	**119,863**	**51·5**	**112,887**	**48·5**	**1,062**
	1927	**234,188**	**120,655**	**51·5**	**113,533**	**48·5**	**1,063**
	1928	**236,757**	**121,505**	**51·3**	**115,252**	**48·7**	**1,054**
	1929	**234,915**	**120,622**	**51·3**	**114,293**	**48·7**	**1,055**

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[1] Including all the provinces except Quebec. [2] 1924 and 1925 provincial figures.

Ages of Parents.—Table **8** shows the age distribution of married fathers and mothers in the years 1926-28. The fathers and mothers in each of these years are arranged according to age and then divided into four equal groups. Each point of age at which a separation comes is called a quartile. To obtain these points of age it is assumed that those in the same year of age are evenly distributed from its lower to its upper limit. In similar manner the deciles divide fathers or mothers in each year into ten equal groups.

In 1928, one-quarter of the married fathers were under 28·15 years of age, one-half under 33·13 years and three-quarters under 38·98 years. One-quarter of the married mothers were under 24·25 years of age, one-half under 28·71 years and three-quarters under 34·16 years. Nine-tenths of the fathers were under 44·21 years and nine-tenths of the mothers under 38·65 years. It will be noted that the general tendency of the quartile and decile points over the three years, while not very marked, is in a downward direction. The movement is clear for the lower age-points and more doubtful for the higher.

8.—Quartile and Decile Ages of Married Fathers and Mothers, 1926-1928.

Position in Array by Age.	Fathers.			Mothers.		
	1926.	1927.	1928.	1926.	1927.	1928.
First quartile..............years of age	28·35	28·24	28·15	24·43	24·35	24·25
Second quartile............ "	33·31	33·26	33·13	28·89	28·85	28·71
Third quartile............. "	39·01	39·04	38·98	34·26	34·26	34·16
First decile................ "	24·91	24·81	24·72	21·41	21·39	21·30
Second decile.............. "	27·28	27·24	27·12	23·50	23·44	23·35
Third decile............... "	29·35	29·25	29·04	25·34	25·25	25·12
Fourth decile.............. "	31·28	31·21	31·02	27·79	27·06	26·92
Fifth decile................ "	33·31	33·26	33·13	28·89	28·85	28·71
Sixth decile................ "	35·48	35·44	35·31	30·82	30·78	30·69
Seventh decile............. "	37·81	37·83	37·78	33·41	33·03	32·94
Eighth decile.............. "	40·40	40·43	40·38	35·61	35·61	35·51
Ninth decile............... "	44·19	44·20	44·21	38·69	38·69	38·65

Nativity of Parents.—Table **9** classifies the children born in 1928 by country of birth of parents, and furnishes some idea to what extent the coming generation of Canadian-born will be the product of Canadian-born, British-born or foreign-born parents. The term "country not specified," under country of birth, includes for the father illegitimate births and births of incomplete record, while for the mother it includes births of incomplete record only.

9.—Number and Percentage of Births (exclusive of Stillbirths) in Canada to Fathers and Mothers Born in Specified Countries, 1928.

Country of Birth of Parents.	Number of Births with Father, Mother or Both Parents Born in Specified Country.			Percentage of Births with Father, Mother or Both Parents Born in Specified Country.		
	Father.	Mother.	Both Parents.	Father.	Mother.	Both Parents.
Canada	161,560	171,027	144,694	68·2	72·2	61·1
England	17,730	17,824	8,624	7·5	7·5	3·6
Ireland	2,813	2,425	1,083	1·2	1·0	0·5
Scotland	6,614	7,129	3,106	2·8	3·0	1·3
Wales	620	502	135	0·3	0·2	0·1
Other British Isles	70	64	10	[3]	[3]	[3]
Newfoundland	1,005	1,022	496	0·4	0·4	0·2
Other British Possessions	517	401	132	0·2	0·2	0·1
Austria	3,291	2,701	2,133	1·4	1·1	0·9
Belgium	582	541	359	0·2	0·2	0·2
Finland	550	564	441	0·2	0·2	0·2
France	471	392	140	0·2	0·2	0·1
Germany	821	764	333	0·3	0·3	0·1
Hungary	704	659	541	0·3	0·3	0·2
Italy	2,626	1,948	1,862	1·1	0·8	0·8
Norway	879	653	388	0·4	0·3	0·2
Poland[1]	4,532	3,996	3,277	1·9	1·7	1·4
Russia[2]	5,627	4,788	3,758	2·4	2·0	1·6
Sweden	884	617	358	0·4	0·3	0·2
Other Europe	3,752	2,877	2,151	1·6	1·2	0·9
China and Japan	1,128	1,053	1,018	0·5	0·4	0·4
Other Asia	370	264	246	0·2	0·1	0·1
United States	11,944	13,036	3,908	5·0	5·5	1·7
Country not specified	7,667	1,510	199	3·2	0·6	0·1
Totals	**236,757**	**236,757**	**179,392**[4]	**100·0**	**100·0**	**75·8**[5]

[1] Includes Galicia. [2] Includes the Ukraine. [3] Less than one-tenth of one per cent. [4] This figure gives the number of children whose fathers and mothers were born in the same country. The difference between this figure (179,392) and the total number of births (236,757) represents the number of children (57,365) whose fathers and mothers were born in different countries. [5] This excludes the percentage (24·2) of "mixed parentage", *i.e.*, where the two parents were not born in the same country.

Origin of Parents.—Table **10** gives the number and percentage of births during 1928, distributed by the principal origins.

10.—Number and Percentage of Births (exclusive of Stillbirths) in Canada to Fathers and Mothers of Specified Origins, 1928.

Origin of Parents.	Number of Births with Father, Mother or Both Parents of Specified Origin.			Percentage of Births with Father, Mother, or Both Parents of Specified Origin.		
	Father.	Mother.	Both Parents.	Father.	Mother.	Both Parents.
English	51,531	54,527	36,762	21·8	23·0	15·5
Irish	21,472	20,277	9,471	9·1	8·6	4·0
Scotch	23,339	23,511	10,944	9·9	9·9	4·6
Welsh	876	736	168	0·4	0·3	0·1
French	90,256	94,056	86,182	38·1	39·7	36·4
German	10,133	10,757	7,293	4·3	4·5	3·1
Armenian	67	58	58	[1]	[1]	[1]
Austrian	1,344	1,424	1,098	0·6	0·6	0·5
Belgian	621	622	399	0·3	0·3	0·2
Bulgarian	58	27	25	[1]	[1]	[1]
Chinese	264	230	229	0·1	0·1	0·1
Czech and Slovak	409	446	295	0·2	0·2	0·1
Danish	614	520	254	0·3	0·2	0·1
Dutch	2,254	2,248	1,205	1·0	0·9	0·5
Finnish	608	733	555	0·3	0·3	0·2
Greek	306	167	160	0·1	0·1	0·1
Hebrew	2,142	2,126	2,077	0·9	0·9	0·9
Hindu	38	38	36	[1]	[1]	[1]
Hungarian	691	763	628	0·3	0·3	0·3
Icelandic	408	471	295	0·2	0·2	0·1
Indian	2,231	2,618	2,102	0·9	1·1	0·9
Italian	2,851	2,463	2,303	1·2	1·0	1·0
Japanese	872	867	866	0·4	0·4	0·4
Negro	379	425	333	0·2	0·2	0·1
Norwegian	1,790	1,886	931	0·8	0·8	0·4
Polish	2,268	2,514	1,717	1·0	1·1	0·7
Roumanian	625	550	435	0·3	0·2	0·2
Russian	2,293	2,110	1,698	1·0	0·9	0·7
Serbo-Croatian	248	249	200	0·1	0·1	0·1
Swedish	1,422	1,391	606	0·6	0·6	0·3
Swiss	280	235	89	0·1	0·1	[1]
Syrian	307	242	227	0·1	0·1	0·1
Ukrainian[4]	5,325	5,603	4,894	2·2	2·4	2·1
Other	259	236	143	0·1	0·1	0·1
Origin not specified	8,176	1,631	599	3·5	0·7	0·3
Totals	**236,757**	**236,757**	**175,277**[2]	**100·0**	**100·0**	**74·0**[3]

[1] Less than one-tenth of one per cent. [2] This figure gives the number of children whose fathers and mothers have the same origin. The difference between this figure (175,277) and the total number of births (236,757) represents the number of children (61,480) whose fathers and mothers are of different origins. [3] This excludes the percentage (26·0) of mixed parentage, *i.e.*, where the parents were not of the same origin. [4] Including Galician and Bukovinian.

Illegitimacy.—The ratio of illegitimate to total births is, generally speaking, low in Canada as compared with other countries.

Out of 236,757 living births in the nine provinces of Canada in 1928, 7,280, or 3·1 p.c., were returned as the issue of unmarried mothers. Preliminary figures for 1929 show a total of 234,915 living births, of which 7,477, or 3·2 p.c., were returned as the issue of unmarried mothers. Out of this number 3,801 were males and 3,676 females—a ratio of 1,034 males to every 1,000 females, as compared with 1,061 males per 1,000 females, for 1928, and a general 1929 rate for all births of 1,055 males to 1,000 females. The somewhat lower 1929 ratio of males to females among the issue of unmarried mothers, as compared with the issue of married mothers, is in contrast with the experience of most other countries, and even with our own records of earlier years.

11.—Number of Illegitimate Births, Classified by Age of Mother, with the Percentage They Form of Total Living Births, by Provinces, 1928, with Provisional Totals for 1929.

Note.—All figures for 1929 are subject to revision.

Age of Mother.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
Under 15 years	–	8	3	8	20	9	7	7	2	64
15-19 years	21	253	137	523	838	184	191	173	99	2,419
20-24 years	20	244	105	580	768	209	170	189	97	2,382
25-29 years	5	62	30	185	270	49	45	57	31	734
30-34 years	1	34	11	62	116	26	22	25	21	318
35-39 years	3	10	7	33	78	20	17	19	10	197
40-44 years	1	9	4	9	16	2	9	7	6	63
45-49 years	–	–	–	1	1	1	–	–	–	3
50 years and over	–	–	1	–	–	–	–	–	–	1
Not given	4	–	1	1,018	63	9	2	1	1	1,099
Totals—										
1928	**55**	**620**	**299**	**2,419**	**2,170**	**509**	**463**	**478**	**267**	**7,280**
1929	**40**	**552**	**315**	**2,359**	**2,369**	**518**	**535**	**523**	**266**	**7,477**
Per cent of all living births—										
1928	3·0	5·7	3·0	2·9	3·2	3·5	2·2	3·0	2·6	3·1
1929	2·4	5·2	3·1	2·9	3·5	3·6	2·5	3·1	2·6	3·2
Male illegitimate births—										
1928	29	296	155	1,271	1,109	261	240	260	127	3,748
1929	23	279	153	1,215	1,203	272	274	251	131	3,801
Female illegitimate births—										
1928	26	324	144	1,148	1,061	248	223	218	140	3,532
1929	17	273	162	1,144	1,166	246	261	272	135	3,676

Stillbirths.—Statistics of the number of children born dead in 1928 are shown below for Canada, according to the status and age of the mother; provisional totals for 1929 are inserted.

12.—Stillbirths by Age of Mother and Legitimacy of Child in 1928, with Provisional Totals for 1929.

Age of Mother.	Unmarried Mothers.	Married Mothers.									Canada.
		P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	
Under 15 years of age	3	–	–	–	–	–	–	–	–	–	3
15-19 years	103	–	18	14	70	159	26	23	27	17	457
20-24 years	81	9	60	58	438	486	84	126	92	72	1,506
25-29 years	37	7	73	57	513	597	102	99	97	73	1,655
30-34 years	18	6	69	45	476	557	87	118	75	63	1,514
35-39 years	13	10	62	36	402	534	96	113	79	51	1,396
40-44 years	10	5	18	33	267	217	46	60	58	32	746
45 and over	–	–	4	5	44	30	8	10	5	3	109
Unknown	67	6	1	2	5	98	2	2	3	5	191
Totals, 1928	**332**	**43**	**305**	**250**	**2,215**	**2,678**	**451**	**551**	**436**	**316**	**7,577**
Totals, 1929	**397**	**48**	**338**	**266**	**2,161**	**2.588**	**484**	**530**	**457**	**275**	**7,544**
Ratios to total births, 1928.	**4·4**	**2·4**	**2·9**	**2·5**	**2·7**	**3·9**	**3·1**	**2·6**	**2·8**	**3·0**	**3·1**
Ratios to total births, 1929.	**5·0**	**2·8**	**3·2**	**2·6**	**2·7**	**3·8**	**3·4**	**2·5**	**2·7**	**2·7**	**3·1**

Birth Rates in Various Countries.—The relative positions occupied by Canada and its individual provinces among the countries of the world with respect to crude birth rate (the annual number of births per 1,000 of population) are shown in Table **13**.

13.—Crude Birth Rates of Various Countries in Recent Years.

Country or Province.	Year.	Crude Birth Rate.	Country or Province.	Year.	Crude Birth Rate.
Chile	1929	47·9	Western Australia	1928	21·8
Egypt	1927	44·3	Finland	1928	21·5
Russia (European)	1926	40·8	Australia	1928	21·3
Ceylon	1928	40·0	Austria	1928	21·3
Costa Rica	1928	40·0	Ontario	1928	21·2
Jamaica	1928	38·9	Prince Edward Island	1928	21·0
Salvador	1928	38·4	Northern Ireland	1928	20·8
Japan	1928	34·4	Latvia	1928	20·7
Roumania	1927	34·1	Irish Free State	1928	20·1
Quebec	1928	31·6	Nova Scotia	1928	20·0
Spain	1928	29·7	Scotland	1928	19·8
Panama	1926	26·2	South Australia	1928	19·8
Italy	1928	26·1	United States (Reg. Area)	1928	19·7
Union of South Africa (whites)	1928	25·8	Victoria	1928	19·7
Newfoundland	1928	25·0	Denmark	1928	19·6
Saskatchewan	1928	25·0	New Zealand	1928	19·6
Uruguay	1928	25·0	Prussia	1928	18·6
Alberta	1928	24·8	Belgium	1928	18·5
Canada	**1928**	**24·5**	Germany	1928	18·5
New Brunswick	1928	24·2	France	1928	18·2
Czechoslovakia	1928	23·3	Norway	1928	18·0
Netherlands	1928	23·3	British Columbia	1928	17·8
New South Wales	1928	22·6	Estonia	1928	17·7
Tasmania	1928	22·2	Switzerland	1928	17·3
Manitoba	1928	22·1	England and Wales	1928	16·7
Queensland	1928	21·8	Sweden	1928	16·2

Section 3.—Marriages and Divorces.

Subsection 1.—Marriages.

About a century ago it was observed in the United Kingdom that the number of marriages tended to be high when the price of wheat was low and to be low when the price of wheat was high. This was quite naturally the case among a population, the majority of which was living at a comparatively low standard of comfort, and where the staple food was thus the chief factor in the cost of living.

More recently, the curve showing marriage rates in the United Kingdom and other English-speaking countries has ceased to bear any constant relation to the price of the staple food of the people, though it still does so in poorer countries. Its place in influencing the marriage rate has, however, been taken by the general level of prosperity. Marriages in such countries as the United Kingdom, the United States, Canada and Australia tend to increase in "good times" and to diminish in "hard times", when great numbers of those who are contemplating marriage are led to postpone such marriage until the advent of better industrial conditions.

Even in the short period covered by the vital statistics of Canada, the truth of the above statement is supported by the evidence. In 1920, a year of great prosperity, the marriages taking place in the nine provinces numbered 80,931 or 9·4 per 1,000 of population, in 1921 they declined to 69,732 or 8·0 per 1,000; in 1922 to 64,420 or 7·2 per 1,000 population, largely owing to the industrial depression in those years; in 1923, a more prosperous year, they showed an increase to 66,463 or 7·4 per 1,000 of population. Again in 1924 and

1925 the rates fell to 7·1 and 7·0 per 1,000 population respectively, while in 1926 to 1929 the rates rose again to 7·1, 7·3, 7·7 and 7·9 per 1,000 respectively, probably influenced by the return of prosperity. It should be mentioned, of course, that there doubtless occurred in 1920 and 1921 a number of deferred marriages, which under more normal conditions would have occurred in the war years. Summary statistics of marriages contracted in 1921 to 1929 appear in Table **14**, the figures and rates for Quebec from 1921 to 1925 being taken from provincial sources.

14.—Number of Marriages and Marriage Rates, by Provinces, 1921-1929.

A. NUMBER OF MARRIAGES.

Year.	P.E.I.	N.S.	N.B.	Que.[1]	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
1921	518	3,550	3,173	18,659	24,871	5,310	5,101	4,661	3.889	69,732
1922	579	3,169	2,799	16,609	23,360	4,808	5,061	4,272	3,763	64,420
1923	454	3,246	2,911	17,361	24,842	4,544	5,045	4,117	3,943	66,463
1924	408	2,999	2,972	17,591	24,038	4,132	4,792	4,159	4,038	65,129
1925	407	2,964	2,908	17,427	23,074	4,377	4,909	4,355	4,223	64,644
1926	459	2,861	2,938	17,827	23,632	4,537	5,483	4,503	4,418	66,658
1927	482	3,042	2,887	18,551	24,677	4,716	5,733	4,707	4,720	69,515
1928	466	3,256	3,146	19,126	25,728	5,170	6,701	5,776	4,942	74,311
1929[2]	469	3,510	3,117	19,610	27,605	5,269	6,535	5,999	5,151	77,265

B. MARRIAGE RATES PER 1,000 POPULATION.

1921	5·8	6·8	8·4	7·9	8·5	8·7	6·7	7·9	7·4	8·0
1922	6·6	6·0	7·1	6·5	7·8	7·8	6·6	7·2	7·0	7·2
1923	5·2	6·1	7·4	6·3	8·2	7·3	6·4	6·9	7·2	7·4
1924	4·6	5·6	7·4	6·7	7·9	6·6	6·0	6·9	7·3	7·1
1925	4·7	5·5	7·2	6·5	7·4	6·9	6·1	7·2	7·5	7·0
1926	5·3	5·3	7·2	7·0	7·5	7·1	6·7	7·4	7·8	7·1
1927	5·5	5·6	7·0	7·1	7·7	7·3	6·9	7·6	8·2	7·3
1928	5·4	6·0	7·6	7·2	8·0	7·9	7·9	9·1	8·5	7·7
1929[2]	5·5	6·4	7·4	7·3	8·4	7·9	7·5	9·3	8·7	7·9

[1] Provincial figures 1921-25.
[2] 1929 figures are subject to revision.

Age at Marriage.—The average age of all bridegrooms in the Dominion in 1928 was 29·3 years and that of all brides 25·0 years. The average excess of the bridegroom's age was thus 4·3 years. It may be noted in Table **15** that when the contracting parties are grouped by age of bridegroom, the average difference in age is less for the younger groups than for the older, grooms under 20 being 0·3 years younger than the brides, while the excess of the bridegroom's age was 1·6 years in the group 20-24, and steadily increased for each quinquennial age group until it was 10·7 years for the bridegrooms 50 years and over. On the other hand, when the parties are grouped by the age of the bride, it is found that, although with less regularity than is shown in the table by age of grooms, the general tendency is for the older brides to marry men nearer their own age than in the case of the younger brides. Since these tables are based upon all marriages contracted during the year, the figures given should not be understood to signify the average ages at first marriage. Out of each 1,000 bridegrooms in 1928, 904 were bachelors, 86 widowers, 10 divorced men; out of each 1,000 brides 930 were spinsters, 60 widows, 10 divorced women. Nineteen twenty-eight is the first year in which as many as 1 p.c. of those marrying have previously been divorced.

15.—Difference in Ages of Bridegrooms and Brides, 1928.

Age Group of Bridegroom.	Average Age of Bridegroom.	Average Age of Bride.	Average excess of Bridegroom's Age.	Age Group of Bride.	Average Age of Bride.	Average Age of Bridegroom.	Average excess of Bridegroom's Age.
All bridegrooms....	29·3	25·0	4·3	All brides..........	25·0	29·3	4·3
Under 20 years.....	19·2	19·5	– 0·3	Under 20 years.....	18·5	24·5	6·0
20–24 years.........	22·8	21·2	1·6	20–24 years.........	22·3	26·5	4·2
25–29 years.........	27·2	23·4	3·8	25–29 years.........	27·1	30·2	3·1
30–34 years.........	32·2	25·9	6·3	30–34 years.........	32·2	35·5	3·3
35–39 years.........	37·3	29·0	8·3	35–39 years.........	37·3	40·7	3·4
40–44 years.........	42·2	32·7	9·5	40–44 years.........	42·3	46·4	4·1
45–49 years.........	47·3	37·4	9·9	45–49 years.........	47·3	51·4	4·1
50 years and over..	59·3	48·6	10·7	50 years and over..	58·5	60·8	2·3

16.—Average Ages of Parties Contracting Marriages, 1928.

Province.	Average Age of all Grooms.	Average Age of all Brides.	Average excess of Groom's Age over Bride's.
Prince Edward Island..	30·4	25·5	4·9
Nova Scotia..	29·4	24·8	4·6
New Brunswick..	28·9	24·5	4·4
Quebec..	28·8	25·2	3·6
Ontario..	28·9	25·1	3·8
Manitoba..	29·9	24·7	5·2
Saskatchewan..	29·2	23·8	5·4
Alberta..	29·8	24·4	5·4
British Columbia..	31·5	26·5	5·0
Canada..	**29·3**	**25·0**	**4·3**

Nativity of Brides and Bridegrooms.—In Alberta and British Columbia, the majority of the bridegrooms and brides in the marriages contracted in 1928 were born outside of Canada; in Manitoba the majority of the bridegrooms were born outside Canada but the majority of the brides were Canadians, and in Saskatchewan the same conditions obtained. In the three Maritime Provinces, the Canadian-born brides and grooms showed a marked predominance, varying between 79 p.c. and 97 p.c., and in Ontario over 65 p.c. of grooms and 68 p.c. of brides were Canadian-born. In 1928, taking Canada as a whole, 64·7 p.c. of all grooms and 69·7 p.c of all brides were born in Canada. Table **17** gives the number of marriages per 1,000 population in each province, as well as the percentage distribution of brides and grooms according to nativity.

17.—Nativity, by Provinces, of Persons Married in the Registration Area, 1924-1928.

Note.—For figures for 1921-1923, see the 1929 Year Book, p. 166.

Province.	Year.	Marriages.		Percentage Distribution of Grooms and Brides by Nativity.					
		Total.	Per 1,000 population.	Born in Provinces of Residence.		Born in other Provinces.		Born elsewhere.	
				Grooms	Brides.	Grooms	Brides.	Grooms	Brides.
P.E. Island..............	1924	408	4·6	88·7	93·1	7·4	3·7	3·9	3·2
	1925	407	4·7	90·9	93·4	4·9	2·2	4·1	4·4
	1926	459	5·3	88·9	94·3	5·5	2·2	5·7	3·5
	1927	482	5·5	92·7	95·0	3·5	1·5	3·7	3·5
	1928	466	5·4	91·0	94·2	3·6	2·6	5·4	3·2

17.—Nativity, by Provinces, of Persons Married in the Registration Area, 1924-1928—concluded.

Province.	Year.	Marriages.		Percentage Distribution of Grooms and Brides by Nativity.					
		Total.	Per 1,000 population.	Born in Provinces of Residence.		Born in other Provinces.		Born elsewhere.	
				Grooms.	Brides.	Grooms.	Brides.	Grooms.	Brides.
Nova Scotia	1924	2,999	5·6	78·8	82·9	5·0	3·0	16·2	14·1
	1925	2,964	5·5	78·9	84·1	5·6	3·2	15·5	12·7
	1926	2,861	5·3	79·0	85·3	4·9	3·1	16·2	11·6
	1927	3,042	5·6	79·5	84·5	4·6	3·7	15·9	11·8
	1928	3,256	6·0	79·0	83·9	4·6	3·0	16·4	13·1
New Brunswick	1924	2,972	7·4	73·2	77·2	10·0	7·9	16·8	14·9
	1925	2,908	7·2	72·2	76·5	9·3	7·0	18·5	16·5
	1926	2,938	7·2	72·1	75·6	9·0	8·0	18·9	16·4
	1927	2,887	7·0	72·3	75·5	8·5	8·2	19·3	16·2
	1928	3,146	7·6	69·4	74·8	9·2	7·3	21·4	17·9
Ontario	1924	24,038	7·9	58·8	62·3	6·8	6·1	34·4	31·6
	1925	23,074	7·4	58·9	62·6	7·5	6·8	33·6	30·7
	1926	23,632	7·5	60·4	64·3	7·3	6·6	32·3	29·1
	1927	24,677	7·7	59·6	63·5	6·9	6·2	33·4	30·3
	1928	25,728	8·0	57·0	61·3	7·2	6·7	35·8	32·0
Manitoba	1924	4,132	6·6	28·4	43·1	17·0	13·4	54·6	43·5
	1925	4,377	6·9	32·4	44·7	15·6	11·3	51·9	44·0
	1926	4,537	7·1	35·4	47·7	14·2	12·2	50·3	40·2
	1927	4,716	7·3	34·7	48·7	13·6	10·8	51·8	40·6
	1928	5,170	7·9	34·8	48·0	13·0	10·5	52·2	41·5
Saskatchewan	1924	4,792	6·0	11·2	24·6	30·2	25·6	58·6	49·8
	1925	4,909	6·1	13·2	26·6	29·0	24·8	57·8	48·6
	1926	5,483	6·7	15·1	31·0	28·8	24·6	56·1	44·4
	1927	5,733	6·9	17·0	32·5	27·6	23·3	55·4	44·2
	1928	6,701	7·9	17·8	34·8	26·4	20·1	55·8	45·1
Alberta	1924	4,159	6·9	11·6	22·5	25·0	22·4	63·4	55·1
	1925	4,355	7·2	13·6	25·1	24·0	20·5	62·5	54·4
	1926	4,503	7·4	13·3	25·7	24·1	21·7	62·5	52·6
	1927	4,707	7·6	15·2	25·4	23·3	20·9	61·4	53·7
	1928	5,776	9·1	16·6	28·3	22·4	18·7	61·0	53·0
British Columbia	1924	4,038	7·3	16·2	23·3	21·3	19·8	62·5	56·9
	1925	4,223	7·5	17·1	22·1	20·7	20·4	62·2	57·4
	1926	4,418	7·8	17·7	22·5	21·0	20·8	61·2	56·7
	1927	4,720	8·2	16·9	22·7	20·3	21·9	62·8	55·5
	1928	4,942	8·5	18·3	25·8	21·5	21·7	60·2	52·5
Canada (Former Registration Area).	**1924**	**47,538**	**7·1**	**46·0**	**52·5**	**12·9**	**11·2**	**41·1**	**36·3**
	1925	**47,217**	**7·0**	**46·1**	**52·6**	**13·2**	**11·3**	**40·7**	**36·1**
	1926	**48,831**	**7·2**	**46·8**	**53·9**	**13·1**	**11·7**	**40·1**	**34·5**
	1927	**50,964**	**7·4**	**46·7**	**53·6**	**12·5**	**11·2**	**40·8**	**35·2**
	1928	**55,185**	**7·9**	**44·8**	**52·6**	**12·9**	**11·1**	**42·3**	**36·3**
Quebec	1926	17,827	7·0	81·9	84·4	3·9	3·4	14·1	12·2
	1927	18,551	7·1	81·1	84·3	4·2	3·3	14·7	12·4
	1928	19,126	7·2	80·8	83·8	4·1	3·5	15·1	12·7
Canada (exclusive of Territories)	**1926**	**66,658**	**7·1**	**56·2**	**62·0**	**10·7**	**9·5**	**33·2**	**28·5**
	1927	**69,515**	**7·3**	**55·9**	**61·8**	**10·3**	**9·1**	**33·8**	**29·1**
	1928	**74,311**	**7·7**	**54·1**	**60·6**	**10·6**	**9·1**	**35·3**	**30·3**

Marriage Rates in Various Countries.—For comparative purposes, the crude marriage rates per 1,000 of population in various countries of the world and in the provinces of Canada are shown for the indicated years in Table **18.**

18.—Crude Marriage Rates of Various Countries in Recent Years.

Country or Province.	Year.	Crude Marriage Rate per 1,000 population.
Ceylon	1928	12·1
Ukraine	1927	11·4
United States	1928	9·9
Roumania	1927	9·7
Czechoslovakia	1928	9·3
Hungary	1928	9·3
Germany	1928	9·2
Alberta	1928	9·1
Belgium	1927	9·1
Union of South Africa	1927	9·1
Latvia	1928	8·6
British Columbia	1928	8·5
France	1928	8·3
New South Wales	1928	8·3
Western Australia	1928	8·3
Japan	1928	8·0
Ontario	1928	8·0
Manitoba	1928	7·9
Saskatchewan	1928	7·9
Chile	1927	7·8
Denmark	1928	7·8
Australia	1928	7·7
Canada	**1928**	**7·7**
England	1928	7·7
Estonia	1927	7·7
Netherlands	1928	7·7
New Brunswick	1928	7·6
New Zealand	1928	7·6
Spain	1928	7·6
Switzerland	1928	7·5
Victoria	1928	7·5
Austria	1928	7·4
Quebec	1928	7·2
South Australia	1928	7·2
Tasmania	1928	7·1
Italy	1928	7·0
Queensland	1928	7·0
Finland	1927	6·7
Scotland	1928	6·7
Sweden	1928	6·7
Uruguay	1928	6·2
Norway	1928	6·0
Nova Scotia	1928	6·0
Northern Ireland	1928	5·8
Iceland	1927	5·7
Prince Edward Island	1928	5·4
Irish Free State	1928	4·7
Salvador	1927	3·4

Subsection 2.—Divorces.

For many years subsequent to Confederation the number of divorces granted in Canada was very small, 1883, with 13 divorces, being the first year in which the number attained two figures, while 1903, with 21 divorces, was the record year up to that time. Thereafter the numbers grew more rapidly, 1909 showing 51 divorces and 1913, the last pre-war year, 60 divorces. This number was, however, less than one per 1,000 of the marriages contracted in Canada in these years.

The effect of the war was to increase very greatly the number of divorces granted in Canada. The causes may be found in the generally unsettling psychological effect of the war period, and the long separations between men on active service and their wives. The provision of new facilities for divorce is also to be considered; owing to a decision of the British Privy Council, divorces in the Prairie Provinces have, subsequently to 1918, been granted by the courts of these provinces, so that Ontario and Quebec have since then been the only provinces in which the applicant for divorce must secure a special Private Act of Parliament. In 1930, however, an Act of the Dominion Parliament (20-21 Geo. V, c. 14) gave jurisdiction in divorce cases to the Supreme Court of Ontario.

The above-mentioned causes have tended to produce the recent increase in the numbers of divorces granted in Canada, which have grown from 114 in 1918 to 785 in 1928, 816 in 1929 and 875 in 1930, these numbers being those of final decrees, which alone really constitute divorces. More divorces were granted in 1930 alone than in the 46 years from 1868 to 1913. The statistics of divorces granted in the years from 1901 to 1930 inclusive will be found in Table **19.** (For divorces in each year prior to 1901 see the 1921 Year Book, p. 825.)

19.—Statistics of Divorces Granted in Canada, 1901-1930.

NOTE.—In Prince Edward Island only one divorce was granted from 1868 to 1930; this was in 1913. In consequence of a decision of the British Privy Council, divorces in Manitoba, Saskatchewan and Alberta have, subsequently to 1918, been granted by the courts of these provinces.

Year.	Granted by the Dominion Parliament.					Granted by the Courts.			Total for Canada.
	Ontario.	Quebec.	Northwest Territories.		Manitoba.	Nova Scotia.	New Bruns-wick.	British Colum-bia.	
1901	2	–	–		–	10	–	7	19
1902	2	–	–		–	9	1	3	15
1903	2	1	1		1	8	4	4	21
1904	5	1	–		–	6	2	5	19
1905	2	3	2		2	6	2	18	35
			Alta.	Sask.					
1906	10	3	1	–	–	5	1	17	37
1907	3	1	–	–	1	8[1]	3	9	25
1908	8	–	–	–	–	5	5	12	30
1909	8	4	1	1	2	8[1]	5	22	51
1910	14	2	–	1	3	13[1]	6	12	51
1911	13	4	2	–	3	10[1]	6	19	57
1912	9	3	2	1	1	4	4[2]	11	35
1913	20	4	4	1	6	–	4	20	60[6]
1914	18	7	4	2	2	10	12	15	70
1915	10	3	3	1	1	13	6	16	53
1916	18	1	1	2	2	14	11	18	67
1917	10	4	2	1	–	8	6	23	54
1918	10	2	2	1	–	24	10	65	114
1919	49	4	36[3]	3	88[3]	36	13	147	376
1920	91	9	64[4]	26[4]	42[4]	45	15	136	429
1921	101	9	84[4]	50[4]	122[4]	41	13	128	548
1922	90	6	129[4]	37[4]	97[4]	35	12	138	544
1923	105	11	87[4]	41[4]	81[4]	22	19	139[3]	505
1924	114	13	118[4]	28[4]	77[4,5]	42	15	136[3]	543
1925	121	13	101[4]	42[4]	79[4]	30	15	150	551
1926	113	10	154[4]	48[3,4]	85[4]	19	12	167	608
1927	182	13	148[4]	60[4]	102[3,4]	29	17	197	748
1928	213	25	168[4]	55[4]	79[4]	28	14[3]	203	785
1929	208	30	147[4]	69[4]	89[4]	30	21	222	816
1930	207	40	151[4]	62[4]	114[4]	19	27	255	875

[1] Includes one judicial separation. [2] Includes one not effective till court costs are paid. [3] One by Parliament. [4] Granted by courts. [5] Two granted by Parliament. [6] Includes one in P.E. Island.

Section 4.—Deaths.

Within the past century and more especially within the past generation there has occurred throughout the countries of the white world a notable decline in the death rate, except where man has brought death upon himself through wars and the aftermath of wars. How far this decline has been due to advances in medical science, how far to better sanitation and how far to the improvement in the general conditions of living as a result of the increase in the productive power of humanity, is in dispute, but concerning the facts there is no doubt.

Perhaps the most impressive testimony regarding this decline in the death rate is furnished by the mortality statistics of Sweden, where vital statistics have been kept with great accuracy for the whole nation ever since 1750. There the crude death rate declined from an average of 27·40 per 1,000 in the decade 1751-60 to 14·29 in the decade 1911-20 and to 12·0 in 1928.

Similarly, in England, the crude death rate, which was 22·5 per 1,000 in the 60's, 21·4 in the 70's and 18·2 in the 90's of the last century, declined to 15·5 in 1906, 13·8 in 1913 and 11·6 and 12·3 (England and Wales) in 1926 and 1927. In Scotland, again, the rate was 22·1 in the '60's, 21·8 in the '70's, 18·6 in the '90's, 16·4 in 1906, 13·0 in 1926 and 13·5 in 1927.

Of course the preceding statements are not to be taken to mean that every year will show a decline in the death rate as compared with the preceding year. There will always be years of specially high mortality, for instance 1918, when the death rate in Ontario, the most populous of the provinces of Canada, was 15·3 per 1,000 as against 12·0 in 1917 and 11·9 in 1919. (This was owing to the great influenza-pneumonia epidemic of that year.) Over a period, however, these idiosyncrasies of individual years are reduced to negligibility, and it remains true that from decade to decade there is, generally speaking and under normal conditions, a decline in the crude death rate of the countries of the white man's world.

As for Canada, while the period elapsed since the introduction of complete and comprehensive vital statistics in 1920 has been too short to establish a definite downward trend, the rate of 12·4 per 1,000 for that year in the eight provinces then included in the registration area was substantially higher than in any subsequent year. When the year 1920 is eliminated from the series, there is little evidence of continued trend, but it is significant that the rate for 1929, in spite of exceptionally high mortality from influenza, was only 10·7 per 1,000, approximately equal to the average rate for 1921-23. If provincial figures for Quebec are used for the years 1920 to 1925, a similar comparison can be made for the crude rate of the Dominion as a whole, which was 13·7 in 1920 and 11·6 in the year 1929, the latter figure corresponding closely to the average over the period 1921-23.

Subsection 1.—General Mortality.

Total deaths and crude death rates in recent years are given in Table **20** for the former registration area and for Canada, by provinces. Quebec figures from 1921 to 1925 are added from provincial sources.

20.—Deaths and Death Rates, by Provinces, 1921-1929.

A.—TOTAL DEATHS.

Year.	P.E.I.	N.S.	N.B.	Que.[1]	Ont.	Man.	Sask.	Alta.	B.C.	Former Registration Area[4]	Canada.[2]
1921	1,209	6,420	5,410	33,433	34,551	5,388	5,596	4,940	4,208	67,722	101,155
1922	1,113	6,679	5,158	33,459	34,034	5,754	6,119	5,264	4,907	69,028	102,487
1923	1,150	6,868	5,013	35,148	35,636	5,330	6,182	5,006	4,997	70,182	105,330
1924	956	6,583	4,923	32,356	33,078	5,023	5,772	4,858	5,004	66,197	98,553
1925	997	6,045	4,960	32,300	33,960	5,245	5,628	4,697	4,945	66,477	98,777
1926	898	6,366	5,002	37,251	35,909	5,335	6,060	5,159	5,474	70,203	107,454
1927	913	6,378	4,902	36,175	34,775	5,309	6,031	5,059	5,750	69,117	105,292
1928	952	6,202	4,972	36,632	37,128	5,396	6,166	5,699	5,910	72,425	109,057
1929[3]	1,122	6,657	5,213	37,221	38,102	5,808	6,707	6,234	6,386	76,229	113,450

B. CRUDE DEATH RATES PER 1,000 POPULATION.

1921	13·6	12·3	14·2	14·1	11·8	8·8	7·4	8·4	8·0	10·6	11·5
1922	12·6	12·6	13·2	13·3	11·4	9·3	7·9	8·9	9·1	10·6	11·4
1923	13·1	13·0	12·7	13·6	11·8	8·6	7·9	8·4	9·2	10·7	11·5
1924	10·9	12·3	12·3	12·4	10·8	8·0	7·2	8·1	9·0	9·9	10·6
1925	11·5	11·3	12·3	12·2	10·9	8·3	6·9	7·8	8·8	9·9	10·5
1926	10·3	11·8	12·3	14·5	11·4	8·3	7·4	8·5	9·6	10·3	11·5
1927	10·5	11·7	11·9	13·9	10·9	8·2	7·2	8·2	10·0	10·0	11·1
1928	11·1	11·3	12·0	13·8	11·5	8·2	7·2	9·0	10·1	10·3	11·3
1929[3]	13·0	12·1	12·4	13·8	11·6	8·8	7·7	9·7	10·8	10·7	11·6

[1] Provincial figures, 1921–1925. [2] Exclusive of the Territories. [3] Subject to revision. [4] The former registration area consisted of all the provinces except Quebec.

Age Distribution of Decedents.—The numbers of males and females dying in the nine provinces in 1928 and 1929 (provisional figure) are given by single years of age up to 5 and afterwards by quinquennial age groups up to 90 years of age in Table **21**, together with the percentage of the deaths which occurred in each group in each of these years. As illustrating the recent decline in infant mortality, it may be pointed out that the number of males under 1 year dying in 1929, was only 16·2 p.c. of the total number of male deaths, as against 23·6 p.c. in 1921, and of females, 14·8 p.c. as against 20·2 p.c. Similarly, deaths under 5 years of age among males fell from 29·8 p.c. of the total number of deaths in 1921 to 21·1 in 1929 and among females, from 26·5 p.c. to 20·0 p.c., the figures being for the registration area as of 1921 in all cases.

21.—Distribution of Deaths in Canada by Certain Age Groups, Numbers and Percentages, 1928-1929.[1]

Age Group.	Male.		Female.		Male.		Female.	
	1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]	1928.	1929.[1]
	No.	No.	No.	No.	p.c.	p.c.	p.c.	p.c.
Under 1 year	12,026	12,326	9,169	9,331	20·6	20·3	18·1	17·7
1 year	1,600	1,928	1,431	1,562	2·7	3·2	2·8	3·0
2 years	779	852	661	781	1·3	1·4	1·3	1·5
3 years	556	582	489	533	1·0	0·9	1·0	1·0
4 years	422	499	352	473	0·7	0·8	0·7	0·9
Totals, under 5 years	15,383	16,187	12,102	12,680	26·4	26·6	23·9	24·1
5-9 years	1,424	1,535	1,223	1,370	2·4	2·5	2·4	2·6
10-14 years	1,079	1,049	957	975	1·8	1·7	1·9	1·9
15-19 years	1,422	1,555	1,299	1,346	2·4	2·6	2·6	2·6
20-24 years	1,551	1,604	1,644	1,680	2·7	2·6	3·3	3·2
25-29 years	1,461	1,516	1,533	1,611	2·5	2·5	3·0	3·1
30-34 years	1,366	1,371	1,540	1.538	2·3	2·3	3·0	2·9
35-39 years	1,667	1,701	1,714	1,730	2·9	2·8	3·4	3·3
40-44 years	2,006	2,045	1,744	1,810	3·4	3·4	3·4	3·4
45-49 years	2,352	2,456	1,847	1,860	4·0	4·0	3·7	3·5
50-54 years	2,572	2,813	2,019	2,078	4·4	4·6	4·0	4·0
55-59 years	2,991	2,975	2,303	2,273	5·1	4·9	4·6	4·3
60-64 years	3,614	3,694	2,802	2,918	6·2	6·1	5·5	5·6
65-69 years	4,404	4,606	3,357	3,687	7·5	7·6	6·6	7·0
70-74 years	4,699	4,902	3,985	4,255	8·0	8·1	7·9	8·0
75-79 years	4,550	4,631	3,919	4,236	7·8	7·6	7·8	8·1
80-89 years	4,962	5,334	5,392	5,426	8·5	8·8	10·7	10·3
90 years and over	876	820	1,173	1,084	1·5	1·3	2·3	2·1
Stated ages	58,379	60,794	50,553	52,557	-	-	-	-
Ages not stated	101	86	24	13	-	-	-	-
Totals, All Ages	**58,480**	**60,880**	**50,577**	**52,570**	-	-	-	-

[1] 1929 figures are subject to revision.

The quartile and decile ages of decedents for the years 1926-28 are given for each sex and for the two sexes combined in Table **22**. It will be noticed that, in all cases, the ages of decedents have been generally on the increase in both the quartile and decile arrays. The fifth decile and second quartile (or the median) both mark the middle points of the arrays, and the deciles, dividing each half into five groups, give a more detailed picture of the age distribution in each half than do the quartiles. From the decile array it is apparent that for both sexes the greatest age increase has taken place in the third decile. In 1926 three-tenths of the decedents were under 6·95 years of age but in 1928 three-tenths of the decedents were under 16·07 years of age. A further analysis of figures, for males and females, shows that the increase in age for this decile was mainly accounted for by the increase in the age of male decedents.

22.—Quartile and Decile Ages of Decedents by Sex, 1926-1928.

Position in Array by Age.		Both Sexes.			Male.			Female.		
		1926.	1927.	1928.	1926.	1927.	1928.	1926.	1927.	1928.
First quartile	years of age	1·83	2·58	4·67	1·34	1·80	3·34	2·85	3·96	6·82
Second quartile	"	45·50	45·94	49·01	45·16	46·04	48·92	45·89	45·83	49·12
Third quartile	"	70·70	70·32	71·32	70·05	69·69	70·52	71·51	71·07	72·29
First decile	months of age	0·88	0·99	1·27	0·60	0·71	0·94	1·43	1·49	1·77
Second decile	"	8·56	10·09	14·28	6·60	7·87	10·64	11·74	14·64	19·92
Third decile	years of age	6·95	9·78	16·07	4·30	6·76	13·31	12·15	13·70	18·45
Fourth decile	"	28·77	29·37	34·30	26·47	28·16	33·80	30·61	30·56	34·75
Fifth decile	"	45·50	45·94	49·01	45·16	46·04	48·92	45·89	45·83	49·12
Sixth decile	"	58·40	58·28	60·13	57·73	57·89	59·60	59·13	58·74	60·70
Seventh decile	"	67·15	66·89	68·06	66·44	66·25	67·31	68·00	67·59	68·90
Eighth decile	"	74·05	73·73	74·48	73·28	72·97	73·64	74·00	74·67	75·44
Ninth decile	"	80·82	80·56	81·00	79·89	79·65	80·00	81·85	81·60	82·20

Death Rates by Age Groups.—The death rates per 1,000 persons living in each group were shown in a table on p. 175 of the 1927-28 Year Book for the years 1921-24. The calculations were made on the assumption that the age constitution of the estimated population of the later years was the same as that of the ascertained population of the census year.

In this table there was indicated a declining death rate at the earlier ages, a stationary death rate between 35 and 55, and an increasing death rate after 55. While the Canadian period of observation is too short to establish these as general conclusions, the experience of other countries tends to confirm them as being common to the civilized countries of the world.

When the death rate by sexes in various age groups was considered it was evident that in most age groups the female death rate was lower than that of males, though there are significant exceptions. In 1924, the female death rate was lower in the groups up to 20 and above 55. In the groups from 20-24 and 45-54 it was the same as that for males, but in the groups from 25 to 44 it was distinctly higher.

Adjusted Death Rate.—While the crude death rate gives the actual mortality per 1,000 of population, the differing age constitution of the population in different communities and the high mortality among infants and elderly people makes the crude death rate no true test of the relative expectation of life in such communities. Where the age constitution of a particular group is particularly favourable to low mortality, for example, in an army in peace time, the crude death rate will be lower than elsewhere.

When comparisons of the rates of mortality in several communities are made by age groups as is done for the eight provinces in Table **21** on p. 162 of the Canada Year Book, 1925, the effects of differences in age constitution between these communities are eliminated, but by a rather cumbrous process, which does not bring together and express as a single figure the facts of the situation. It has therefore been considered desirable to adopt a particular community as a standard, and to find what the death rates of other communities would have been if the age and sex constitution of their population had corresponded to those of the community taken as a standard. The "standard" population chosen for this purpose in England and Wales and the United States is the "standard million," based on the age and sex distribution per million of the population of England and Wales at the census of 1901. That age and sex distribution was as follows:—

Age Group.	Persons.	Males.	Females.
All ages	1,000,000	483,543	516,457
Under 5 years	114,262	57,039	57,223
5-9 years	107,209	53,462	53,747
10-14 years	102,735	51,370	51,365
15-19 years	99,796	49,420	50,376
20-24 years	95,946	45,273	50,673
25-34 years	161,579	76,425	85,154
35-44 years	122,849	59,394	63,455
45-54 years	89,222	42,924	46,298
55-64 years	59,741	27,913	31,828
65-74 years	33,080	14,691	18,389
75 years and over	13,581	5,632	7,949

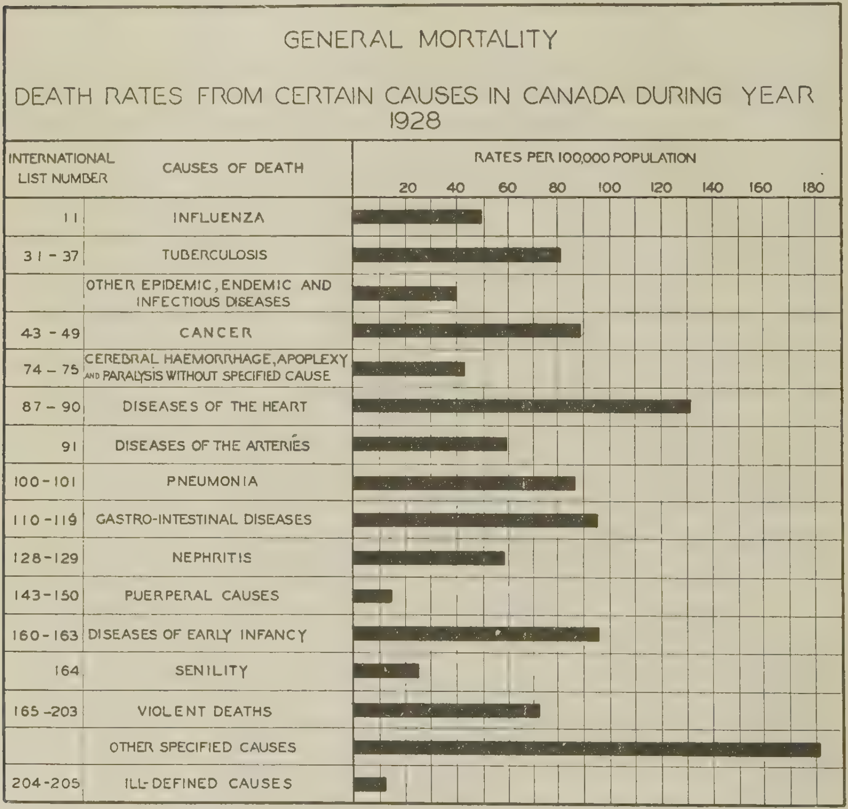
The process above described has been applied to the population of the eight provinces, the former registration area of Canada, in Table **23**, in which it may be noted that the comparatively high crude death rates in the Maritime Provinces and Ontario, due to an unfavourable age distribution of their populations, are considerably lower when adjusted to the "standard million". The reverse is the case in the Prairie Provinces and British Columbia, where the low crude death rate is due in part to the favourable age distribution of the population. For the registration area as a whole the adjusted death rate is somewhat lower than the crude death rate, indicating that the age distribution of our population is somewhat less favourable to low mortality than was the case with the "standard million" of England and Wales at the census of 1901.

When Quebec is included, the crude rate for the Dominion for 1926 is 11·5 and the adjusted rate 11·1; for 1927 the crude rate is 11·1 and the adjusted rate 10·8, and for 1928 the crude rate is 11·3 and the adjusted rate 11·0. For the province of Quebec alone, the crude rate in 1926 was 14·5 and the adjusted rate 14·0; in 1927 the crude rate was 13·9 and the adjusted rate 13·4, and in 1928, the crude rate was 13·8 and the adjusted rate 13·3.

23.—Crude and Adjusted Death Rates in the Former Registration Area of Eight Provinces, by Provinces, 1921-1928.

Province.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
P.E. Island—								
Crude	13·6	12·6	13·1	10·9	11·5	10·3	10·5	11·1
Adjusted	10·3	9·3	9·7	8·3	8·7	7·8	8·0	8·4
Nova Scotia—								
Crude	12·3	12·6	13·0	12·3	11·3	11·8	11·7	11·3
Adjusted	10·3	10·5	10·7	10·3	9·5	9·9	9·8	9·5
New Brunswick—								
Crude	14·2	13·2	12·7	12·3	12·3	12·3	11·9	12·0
Adjusted	12·4	11·7	11·2	10·7	10·7	10·7	10·3	10·4
Ontario—								
Crude	11·8	11·4	11·8	10·8	10·9	11·4	10·9	11·5
Adjusted	10·8	10·4	10·7	9·9	10·0	10·4	10·0	10·6
Manitoba—								
Crude	8·8	9·3	8·6	8·0	8·3	8·3	8·2	8·2
Adjusted	9·6	10·1	9·4	8·7	9·1	9·0	8·9	8·9
Saskatchewan—								
Crude	7·4	7·9	7·9	7·2	6·9	7·4	7·2	7·2
Adjusted	8·3	8·9	8·9	8·1	7·7	8·5	8·1	8·1
Alberta—								
Crude	8·4	8·9	8·4	8·1	7·8	8·5	8·2	9·0
Adjusted	9·4	10·0	9·4	9·1	8·7	9·7	9·2	10·1
British Columbia—								
Crude	8·0	9·1	9·2	9·0	8·8	9·6	10·0	10·1
Adjusted	8·4	9·7	9·8	9·5	9·2	10·1	10·5	10·6
Canada (Former Registration Area) —								
Crude	**10·6**	**10·6**	**10·7**	**9·9**	**9·9**	**10·3**	**10·0**	**10·3**
Adjusted	**10·2**	**10·2**	**10·3**	**9·5**	**9·5**	**10·0**	**9·7**	**10·0**

Causes of Death.—More than 85 p.c. of all deaths recorded in the registration area in the years 1926 to 1929 were due to the 30 causes of death specified in Tables **24** and **25.** Attention may be drawn to the decline in the number of deaths from ill-defined diseases as showing the increasing accuracy of diagnoses and of the resulting statistics (Table **24**).



Deaths in 1929 showed a considerable increase over any of the years from 1926 to 1928. There were 4,393 more deaths in 1929 than in 1928, influenza showing the largest increase with 2,465. Deaths from diseases of the heart increased by 573, deaths from diseases of the arteries by 293 and deaths from cancer by 279. Suicides increased by 83 and violent deaths other than suicides by 128 as compared with 1928.

In the former registration area, suicides have increased from 431 in 1921 to 724 in 1929, and other violent deaths from 3,666 in 1921 to 4,870 in 1929.

24.—Deaths in the Former Registration Area of Canada, by Principal Causes, 1927-1929, and in the Present Registration Area, 1926-1929.

Int. List No.[1]	Cause of Death.	Former Registration Area.			Present Registration Area.[2]			
		1927.	1928.	1929.[3]	1926.	1927.	1928.	1929.[3]
1	Typhoid fever	243	207	227	465	1,112	467	467
7	Measles	253	175	422	892	616	337	619
8	Scarlet fever	216	172	247	363	411	346	440
9	Whooping cough	476	421	466	1,242	1,030	727	755
10	Diphtheria	543	503	580	913	1,012	916	981
11	Influenza	2,414	3,075	4,706	5,174	3,451	4,703	7,168
31	Tuberculosis, lungs	3,837	3,804	3,755	6,485	6,444	6,490	6,443
32-37	Tuberculosis, other organs	800	850	729	1,444	1,338	1,370	1,327
43-49	Cancer	6,010	6,470	6,662	7,614	7,919	8,514	8,793
57	Diabetes mellitus	794	820	877	1,046	1,083	1,097	1,207
58	Anæmia chlorosis	618	537	532	1,040	793	732	691
71	Meningitis	298	293	279	797	812	768	796
74	Cerebral hæmorrhage, apoplexy	2,369	2,490	2,421	3,033	2,938	3,094	2,985
75	Paralysis without specified cause	542	492	444	1,124	1,108	1,011	985
80	Infantile convulsions (under 5 years)	385	315	308	571	553	440	430
87-90	Diseases of the heart	8,902	9,471	9,917	11,415	11,775	12,630	13,203
91	Diseases of the arteries	4,151	4,688	4,938	4,981	5,110	5,644	5,937
99	Bronchitis	313	339	288	587	505	522	471
100-101	Pneumonia	5,152	5,538	5,562	8,427	7,562	8,425	8,436
113-114	Diarrhœa enteritis	1,714	1,593	1,904	5,445	5,534	5,032	4,908
117	Appendicitis	961	999	1,017	1,321	1,382	1,405	1,451
118	Hernia, intestinal obstruction	639	630	701	889	910	856	961
128-129	Nephritis	3,163	3,438	3,391	5,138	5,235	5,715	5,684
135	Diseases of the prostate	471	561	540	734	638	785	740
143-150	Puerperal causes	897	887	907	1,317	1,300	1,331	1,337
159	Congenital malformations	925	957	1,007	1,550	1,347	1,441	1,461
160-163	Diseases of early infancy	5,248	5,175	5,299	9,902	9,246	9,215	9,124
164	Senility (old age)	1,850	1,804	1,835	2,764	2,470	2,408	2,500
165-174	Suicides	674	654	724	680	759	751	834
175-203	Violent deaths (suicides excepted)	4,097	4,776	4,870	5,189	5,509	6,174	6,302
	Other specified causes	9,482	9,642	10,033	13,655	14,319	14,560	14,846
	Totals, specified causes	68,437	71,776	75,588	106,197	104,221	107,906	112,282
204-205	Ill-defined diseases	680	649	641	1,257	1,071	1,151	1,168
	Totals	**69,117**	**72,425**	**76,229**	**107,454**	**105,292**	**109,057**	**113,450**

[1] The numbers given in this column refer to the International List of Causes of Death, as revised in 1920 by the International Commission on the Classification of Diseases and Causes of Death. This classification is accepted in almost all civilized countries. [2] For the whole nine provinces, Quebec having come into the registration area as from Jan. 1, 1926. [3] Figures for 1929 are subject to revision.

25.—Death Rates per 100,000 Population in the Former Registration Area, by Principal Causes, 1927-1929, and in the Present Registration Area, 1926-1929.

Int. List No.[1]	Cause of Death.	Former Registration Area.			Present Registration Area.[2]			
		1927.	1928.	1929.[3]	1926.	1927.	1928.	1929.[3]
1	Typhoid fever	4	3	3	5	12	5	5
7	Measles	4	3	6	10	6	3	6
8	Scarlet fever	3	2	3	4	4	4	4
9	Whooping cough	7	6	7	13	11	8	8
10	Diphtheria	8	7	8	10	11	9	10
11	Influenza	35	44	66	55	36	49	73
31	Tuberculosis, lungs	56	54	53	69	68	67	66
32-37	Tuberculosis, other organs	12	12	10	15	14	14	14
43-49	Cancer	87	92	94	81	83	88	90
57	Diabetes mellitus	12	12	12	11	11	11	12
58	Anæmia chlorosis	9	8	8	11	8	8	7
71	Meningitis	4	4	4	8	9	8	8
74	Cerebral hæmorrhage, apoplexy	34	36	34	32	31	32	31
75	Paralysis without specified cause	8	7	6	12	12	10	10

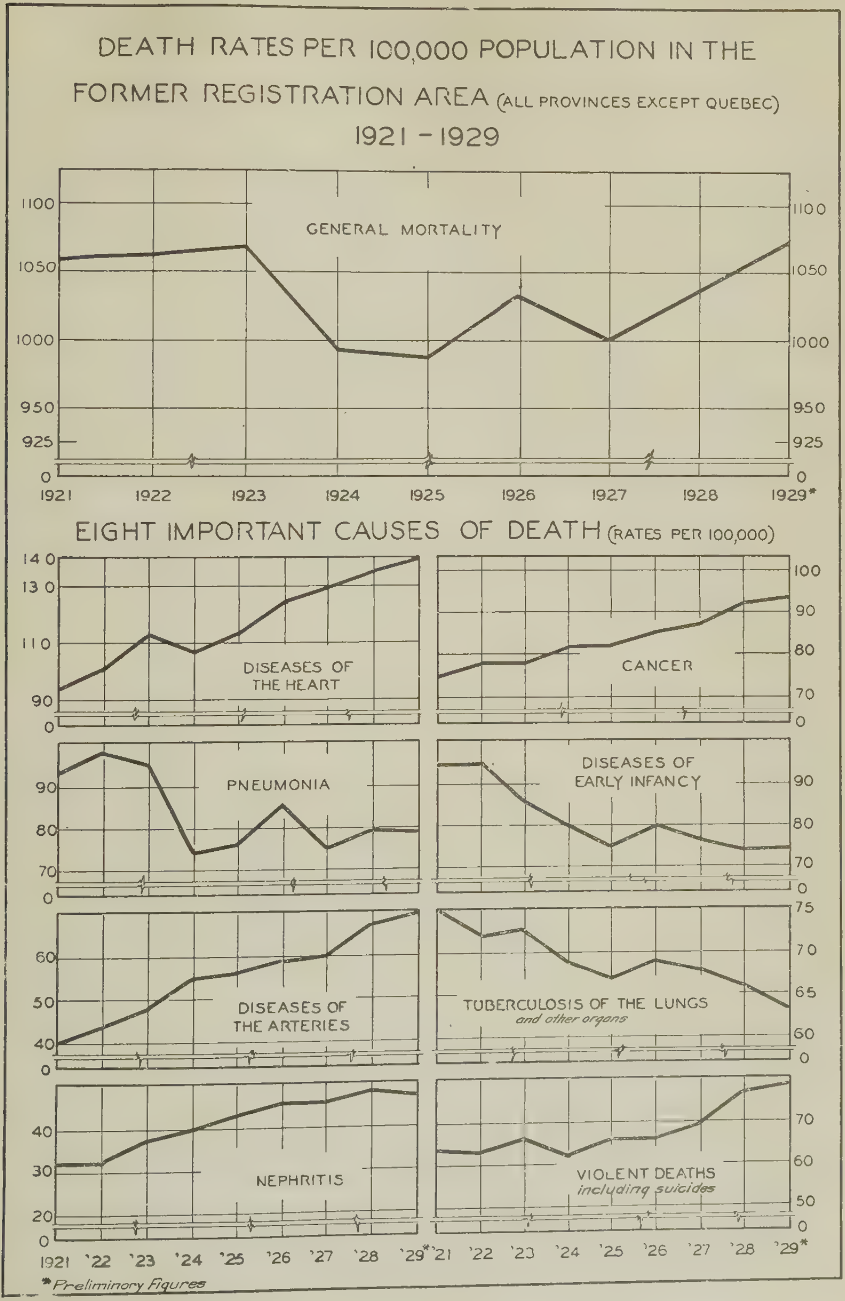
25.—Death Rates per 100,000 Population in the Former Registration Area, by Principal Causes, 1927-1929, and in the Present Registration Area, 1926-1929—concluded.

Int. List No.[1]	Cause of Death.	Former Registration Area.			Present Registration Area.[2]			
		1927.	1928.	1929.[3]	1926.	1927.	1928.	1929.[3]
80	Infantile convulsions (under 5 years)	6	5	4	6	6	5	4
87-90	Diseases of the heart	129	135	140	122	124	131	135
91	Diseases of the arteries	60	67	70	53	54	59	61
99	Bronchitis	5	5	4	6	5	5	5
100-101	Pneumonia	75	79	78	90	80	87	86
113-114	Diarrhœa and enteritis	25	23	27	58	58	52	50
117	Appendicitis	14	14	14	14	15	15	15
118	Hernia, intestinal obstruction	9	9	10	9	10	9	10
128-129	Nephritis	46	49	48	55	55	59	58
135	Diseases of the prostate	7	8	8	8	7	8	8
143-150	Puerperal causes	13	13	13	14	14	14	14
199	Congenital malformations	13	14	14	17	14	15	15
160-163	Diseases of early infancy	76	74	75	106	97	96	93
164	Senility (old age)	27	26	26	29	26	25	26
165-174	Suicides	10	9	10	7	8	8	9
175-203	Violent deaths (suicides excepted)	59	68	69	55	58	64	64
	Other specified causes	137	138	141	146	151	151	152
	Totals, specified causes	991	1,026	1,066	1,132	1,096	1,119	1,148
204-205	Ill-defined diseases	10	9	9	13	11	12	12
	Totals, Death Rates per 100,000 Population	**1,001**	**1,035**	**1,075**	**1,146**	**1,108**	**1,131**	**1,160**

[1] See footnote 1, Table 24. [2] Canada, including Quebec, which was included in the registration area as from Jan. 1, 1926. [3] Rates for 1929 are subject to revision.

Vital Statistics of Yukon and Northwest Territories.—The vital statistics of the Yukon and the Northwest Territories have been collected and compiled for 1924, 1925, 1926, 1927 and 1928. They have not been included with those of the registration area, because of the difficulty of securing complete and accurate information in these isolated areas and the very small numbers affected. In the Yukon Territory the births reported numbered 31 in 1924, 22 in 1925, 27 in 1926, 29 in 1927 and 30 in 1928; marriages 5 in 1924, 17 in 1925, 12 in 1926, 19 in 1927 and 13 in 1928; deaths 38 in 1924, 63 in 1925, 68 in 1926, 33 in 1927 and 46 in 1928. In the Northwest Territories, births reported were 95 in 1924, 57 in 1925, 75 in 1926, 126 in 1927 and 222 in 1928; marriages 37 in 1924, 35 in 1925, 3 in 1926, 20 in 1927 and 30 in 1928; deaths 47 in 1924, 32 in 1925, 51 in 1926, 133 in 1927 and 367 in 1928.

Deaths in Canadian Cities.—Table **26** gives the number of deaths in Canadian cities of 10,000 population and over in each of the years from 1926 to 1929. Generally speaking, 1929 was a year of high death rates, the total number of deaths reported for the Dominion being 113,450 (provisional figure) as compared with 107,454 in 1926. The 1929 figures in most cities show a corresponding increase in the number of deaths. It is probable that these cities contained a larger proportion of the total population in 1929 than in 1926 and it is quite likely that the number of non-residents dying in the hospitals of the cities is also on the increase.



DEATH RATES PER 100,000 POPULATION IN THE FORMER REGISTRATION AREA (ALL PROVINCES EXCEPT QUEBEC) 1921 - 1929

EIGHT IMPORTANT CAUSES OF DEATH (RATES PER 100,000)

*Preliminary Figures

26.—Total Deaths (exclusive of Stillbirths) in Cities of 10,000 Population and Over, 1926-1929.

City.	1926.	1927.	1928.	1929.[1]
Belleville, Ont	199	227	239	241
Brandon, Man	226	230	242	279
Brantford, Ont	360	347	403	405
Brockville, Ont	155	149	171	200
Calgary, Alta	698	615	814	874
Charlottetown, P.E.I	248	202	278	310
Chatham, Ont	247	314	306	315
Edmonton, Alta	795	789	861	987
Fort William, Ont	233	179	211	244
Galt, Ont	145	180	181	167
Glace Bay, N.S	275	344	256	289
Guelph, Ont	233	224	241	244
Halifax, N.S	858	876	837	987
Hamilton, Ont	1,423	1,353	1,471	1,611
Hull, Que	363	382	369	327
Kingston, Ont	458	428	445	536
Kitchener, Ont	282	296	293	294
Lachine, Que	228	205	240	200
Lethbridge, Alta	170	140	199	217
Lévis, Que	255	201	227	215
London, Ont	1,061	1,058	1,122	1,126
Moncton, N.B	224	243	276	243
Montreal, Que	10,898	11,034	11,936	11,452
Moose Jaw, Sask	218	228	235	230
New Westminster, B.C	246	248	297	290
Niagara Falls, Ont	194	188	220	266
North Bay, Ont	135	133	129	166
Oshawa, Ont	165	238	227	214
Ottawa, Ont	1,618	1,536	1,645	1,769
Outremont, Que	106	74	84	128
Owen Sound, Ont	164	147	172	176
Peterborough, Ont	277	307	305	347
Port Arthur, Ont	205	221	222	233
Quebec, Que	2,211	2,091	2,313	2,251
Regina, Sask	422	402	520	554
St. Boniface, Man	417	495	465	529
St. Catharines, Ont	316	272	331	345
St. Hyacinthe, Que	244	260	281	332
Saint John, N.B	707	671	710	786
St. Thomas, Ont	225	222	214	243
Sarnia, Ont	206	215	216	233
Saskatoon, Sask	433	496	498	500
Sault Ste. Marie, Ont	222	203	228	208
Shawinigan Falls, Que	191	185	218	212
Sherbrooke, Que	450	411	467	481
Stratford, Ont	198	194	199	203
Sydney, N.S	276	272	245	186
Toronto, Ont	6,295	6,263	6,962	7,099
Three Rivers, Que	549	539	556	592
Vancouver, B.C.[2]	1,973	2,108	2,201	2,307
Verdun, Que	339	361	441	425
Victoria, B.C	523	482	558	590
Westmount, Que	101	71	128	152
Windsor, Ont	752	705	689	689
Winnipeg, Man	1,698	1,656	1,808	1,814

[1] Provisional figures.

[2] Though Point Grey and South Vancouver were not incorporated into Vancouver until Jan. 1, 1929, their statistics are included in the figures for Vancouver for the years 1926-28.

Comparative Crude Death Rates of Different Countries.—In Table 27 will be found a comparative statement of the crude death rates of various countries and provinces for the latest available year. It is worthy of note that two Canadian provinces rank among the four countries or provinces with the lowest death rates in the list, and that Canada has a lower death rate than most other leading countries. The low death rates in the Prairie Provinces are in all three cases due in part to a favourable age distribution of population.

27.—Crude Death Rates of Various Countries in Recent Years.

Country or Province.	Year.	Crude Death Rate.	Country or Province.	Year.	Crude Death Rate.
Saskatchewan	1928	7·2	Argentina	1926	12·3
Union of South Africa (Whites)	1928	7·9	Iceland	1927	12·5
Manitoba	1928	8·2	Panama	1926	12·6
New Zealand	1928	8·5	Greece	1925	13·1
Queensland	1928	8·8	Scotland	1928	13·3
South Australia	1928	8·9	Belgium	1928	13·4
Alberta	1928	9·0	Finland	1928	13·5
Western Australia	1928	9·1	Quebec	1928	13·8
New South Wales	1928	9·3	Irish Free State	1928	14·2
Australia	1928	9·5	Newfoundland	1923	14·2
Netherlands	1928	9·6	Austria	1928	14·4
British Columbia	1928	10·1	Northern Ireland	1928	14·4
Tasmania	1928	10·1	Latvia	1928	14·9
Victoria	1928	10·1	Czechoslovakia	1928	15·1
Norway	1928	10·6	Italy	1928	15·6
Uruguay	1928	10·7	Estonia	1928	15·8
Denmark	1928	11·0	France	1928	16·5
Prince Edward Island	1928	11·1	Bulgaria	1926	17·2
Canada	**1928**	**11·3**	Hungary	1928	17·2
Nova Scotia	1928	11·1	Spain	1928	18·4
Ontario	1928	11·5	Jamaica	1928	19·7
Prussia	1928	11·5	Japan	1928	19·9
Germany	1928	11·6	Roumania	1927	22·9
England and Wales	1928	11·7	Chile	1928	23·7
New Brunswick	1928	12·0	Ceylon	1928	24·8
Sweden	1928	12·0	British India	1927	24·9
Switzerland	1928	12·0	Egypt	1927	25·4
United States (Reg. Area)	1928	12·0			

Subsection 2.—Infantile and Maternal Mortality.

In recent years a great part of the energy devoted by the medical profession and sanitarians to effect a decline in the death rate has gone to reduce infantile mortality, and in this field a large measure of success has been attained. In Canada, both the Dominion, provincial and municipal health authorities have taken part in the struggle to reduce infantile mortality, and usually, in the absence of epidemics, each year is showing an improvement. Even in the nine years for which the figures are available for the former registration area, there is evident a very considerable decline in infantile mortality. In 1920 more than 10 p.c. of all children born, died in the first year of life; in 1921 the proportion dropped to 8·8 p.c. or 14,893 deaths in a total of 168,979 births; in 1922 the infantile death rate showed a further betterment, dropping to 8·7 p.c. or 14,256 deaths in 164,194 births, while in 1923 it showed a slight increase to 8·8 p.c. In 1924, however, there was a considerable improvement, the rate falling to 7·85 p.c. and increasing but slightly in 1925 and 1926 to 7·86 p.c. and 7·99 p.c. respectively. The figure for 1928 was 7·09 p.c., the lowest on record for the former registration area; the provisional figure for 1929 is 7·72. Deaths of children under one year of age in the present registration area constituted 20·9 p.c. of all deaths in 1927, 19·5 p.c. in 1928 and 19·1 p.c. (provisional figure) in 1929, as compared with 22·1 p.c. in 1926. Table **28** summarizes the statistics for the former registration area and for Canada exclusive of the territories for the years 1921-29, the figures for the latest year being provisional.

28.—Infantile Mortality, by Provinces, together with the Rate per 1,000 Living Births, 1921-1929.

A. INFANT DEATHS.

Year.	P.E.I.	N.S.	N.B.	Que.[1]	Ont.	Man.	Sask.	Alta.	B.C.	Former Registration Area.	Canada.[2]
1921..........	180	1,311	1,299	11,387	6,763	1,533	1,814	1,391	602	14,893	26,280
1922..........	153	1,239	1,194	11,297	5,921	1,669	1,913	1,475	692	14,256	25,553
1923..........	176	1,139	1,135	11,011	5,950	1,411	1,925	1,418	668	13,822	24,833
1924..........	133	1,118	1,098	10,334	5,418	1,173	1,634	1,227	574	12,375	22,709
1925..........	116	887	1,096	10,141	5,530	1,184	1,662	1,125	569	12,169	22,310
1926..........	123	882	1,095	11,666	5,302	1,122	1,681	1,233	588	12,026	23,692
1927..........	113	1,028	1,006	10,739	4,812	1,021	1,575	1,110	606	11,271	22,010
1928..........	92	865	960	10,332	4,880	972	1,370	1,200	524	10,863	21,195
1929[3].........	150	960	1,084	9,810	5,200	1,005	1,567	1,310	571	11,847	21,657

B. INFANT DEATH RATE PER 1,000 LIVING BIRTHS.

1921..........	83·5	100·7	113·3	128·3	91·2	83·0	80·6	84·0	56·5	88·1	102·0
1922..........	70·8	97·6	103·3	127·8	82·9	94·4	85·6	91·3	68·1	86·8	101·2
1923..........	89·0	97·5	106·0	131·7	84·9	85·7	91·9	94·2	66·8	88·1	103·3
1924..........	71·6	94·7	102·5	118·9	75·8	75·9	75·9	84·1	56·7	78·5	92·9
1925..........	69·3	77·8	100·1	115·9	78·9	79·6	80·8	75·4	55·0	78·6	92·0
1926..........	70·2	80·3	105·9	142·0	78·4	76·5	81·1	85·3	58·4	79·9	101·8
1927..........	66·6	92·3	96·0	129·3	71·1	72·2	74·9	74·5	60·1	74·6	94·0
1928..........	50·9	79·1	95·6	123·6	71·2	67·0	64·4	76·5	50·5	70·9	89·5
1929[3].........	89·9	90·0	106·0	120·5	76·0	70·6	73·5	78·2	55·6	77·2	92·2

[1] Provincial figures 1921-25. [2] Exclusive of the Territories. [3] Figures subject to revision.

Infantile Mortality by Causes of Death.—Twenty principal causes of death accounted in the years 1926 to 1929 for between 91 and 93 p.c. of the infantile mortality experienced in the Dominion, as is shown in Table **29.** It is noteworthy that four causes present at birth, *viz.*, premature birth, injuries at birth, congenital debility and congenital malformations, accounted for over 42 p.c. of the infant deaths of 1929. In the previous year 48·83 p.c. of all infants dying were less than one month old, and 35·30 p.c. less than one week old, as is shown in Table **30.**

29.—Infantile Mortality in Canada by Principal Causes of Death, 1926-1929.

Note.—Figures for the former registration area for the years 1921 to 1924 will be found at pp. 182-3 of the 1927-28 Year Book and for 1925 to 1927 at pp. 177-8 of the 1929 Year Book. Figures for 1929 are subject to revision.

Cause of Death.	International List No.	Year.	Males.		Females.		Both Sexes.		
			No.	Rate per 100,000 living births.	No.	Rate per 100,000 living births.	No.	Per cent distribution by cause of death.	Rate per 100,000 living births.
Measles........................	7	1926	141	118	122	108	263	1·1	113
		1927	113	94	74	65	187	0·8	80
		1928	50	41	39	34	89	0·4	38
		1929	88	73	84	73	172	0·8	73
Scarlet fever..................	8	1926	13	11	12	11	25	0·1	11
		1927	23	19	12	11	35	0·2	15
		1928	12	10	13	11	25	0·1	11
		1929	10	8	10	9	20	0·1	9
Whooping cough..............	9	1926	358	299	415	368	773	3·3	332
		1927	336	278	304	268	640	2·9	273
		1928	230	189	239	207	469	2·2	198
		1929	231	192	223	195	454	2·1	193
Diphtheria....................	10	1926	24	20	23	20	47	0·2	20
		1927	24	20	24	21	48	0·2	20
		1928	22	18	26	23	48	0·2	20
		1929	22	18	21	18	43	0·2	18
Influenza......................	11	1926	576	481	374	331	950	4·0	408
		1927	411	341	308	271	719	3·3	307
		1928	500	412	331	287	831	3·9	351
		1929	686	569	542	474	1,228	5·7	523

29.—Infantile Mortality in Canada by Principal Causes of Death, 1926-1929—concluded.

Cause of Death.	International List No.	Year.	Males.		Females.		Both Sexes.		
			No.	Rate per 100,000 living births.	No.	Rate per 100,000 living births.	No.	Per cent distribution by cause of death.	Rate per 100,000 living births.
Erysipelas	21	1926	51	43	50	44	101	0·4	43
		1927	48	40	47	41	95	0·4	41
		1928	45	37	46	40	91	0·4	38
		1929	55	46	45	39	100	0·5	43
Tuberculosis	31–37	1926	131	109	102	90	233	1·0	100
		1927	100	83	88	78	188	0·9	80
		1928	105	86	89	77	194	0·9	82
		1929	115	95	86	75	201	0·9	86
Syphilis	38	1926	68	57	60	53	128	0·5	55
		1927	70	58	61	54	131	0·6	56
		1928	81	67	48	42	129	0·6	54
		1929	72	60	77	67	149	0·7	63
Meningitis (simple)	71a	1926	201	168	126	112	327	1·4	140
		1927	186	154	139	122	325	1·5	139
		1928	149	123	151	131	300	1·4	127
		1929	165	137	117	102	282	1·3	120
Convulsions	80	1926	263	219	177	157	440	1·9	189
		1927	265	220	176	155	441	2·0	188
		1928	208	171	140	121	348	1·6	147
		1929	181	150	135	118	316	1·5	135
Bronchitis	99	1926	90	75	60	53	150	0·6	64
		1927	74	61	60	53	134	0·6	57
		1928	71	58	56	49	127	0·6	54
		1929	79	65	58	51	137	0·6	58
Pneumonia	100–101	1926	1,410	1,176	1,077	954	2,487	10·5	1,069
		1927	1,210	1,003	940	828	2,150	9·8	918
		1928	1,251	1,030	958	831	2,209	10·4	933
		1929	1,364	1,131	1,026	898	2,390	11·0	1,017
Diseases of the stomach	110–112	1926	156	130	126	112	282	1·2	121
		1927	170	141	132	116	302	1·4	129
		1928	132	109	111	96	243	1·1	103
		1929	131	109	114	100	245	1·1	104
Diarrhœa and enteritis	113	1926	2,451	2,045	1,867	1,654	4,318	18·2	1,855
		1927	2,430	2,014	1,819	1,602	4,249	19·3	1,814
		1928	2,228	1,834	1,671	1,450	3,899	18·4	1,647
		1929	2,123	1,760	1,583	1,385	3,706	17·1	1,578
Hernia, intestinal obstruction	118	1926	68	57	39	35	107	0·5	46
		1927	73	61	32	28	105	0·5	45
		1928	64	53	24	21	88	0·4	37
		1929	66	55	43	38	109	0·5	46
Congenital malformations	159	1926	777	648	635	563	1,412	6·0	607
		1927	661	548	595	524	1,256	5·7	536
		1928	702	578	597	518	1,299	6·1	549
		1929	761	631	562	492	1,323	6·1	563
Congenital debility	160	1926	1,353	1,129	1,000	886	2,353	9·9	1,011
		1927	1,355	1,123	1,013	892	2,368	10·8	1,011
		1928	1,372	1,129	966	838	2,338	11·0	988
		1929	1,330	1,103	988	864	2,318	10·7	987
Premature birth	161a	1926	2,936	2,449	2,147	1,902	5,083	21·5	2,184
		1927	2,550	2,113	1,852	1,631	4,402	20·0	1,880
		1928	2,500	2,058	2,079	1,804	4,579	21·6	1,934
		1929	2,544	2,109	1,935	1,693	4,479	20·7	1,907
Injury at birth	161b	1926	563	470	386	342	949	4·0	408
		1927	601	498	408	359	1,009	4·6	431
		1928	644	530	373	324	1,017	4·8	430
		1929	612	507	378	331	990	4·6	421
Other diseases peculiar to early infancy	162	1926	885	738	622	551	1,507	6·4	647
		1927	848	703	606	534	1,454	6·6	621
		1928	734	604	542	470	1,276	6·0	539
		1929	757	628	572	500	1,329	6·1	566
Other specified causes	—	1926	919	767	680	602	1,599	6·7	687
		1927	921	763	713	628	1,634	7·4	698
		1928	841	692	603	523	1,444	6·8	610
		1929	855	709	648	567	1,503	6·9	640
Ill-defined causes	204–205	1926	103	86	55	49	158	0·7	68
		1927	79	65	59	52	138	0·6	59
		1928	85	70	67	58	152	0·7	64
		1929	79	65	84	73	163	0·8	[illegible]
All causes	—	1926	13,537	11,294	10,155	8,996	23,692	100·0	10,179
		1927	12,548	10,400	9,462	8,334	22,010	100·0	9,398
		1928	12,026	9,898	9,169	7,956	21,195	100·0	8,952
		1929	12,326	10,219	9,331	8,164	21,657	100·0	9,219

30.—Proportion per 1,000 Deaths of Infants Under 1 Year of Age Occurring at each Age Period, 1928.

Age at Death.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
Under 1 month	456·5	493·6	459·4	432·3	554·3	546·3	575·2	538·3	576·3	488·3
Under 1 day	141·3	169·9	141·7	169·4	229·1	188·3	231·4	215·8	209·9	190·3
1 day and under 1 week	195·7	188·4	182·3	130·2	197·3	202·7	178·1	180·8	242·4	162·7
1 week and under 2 weeks	65·2	53·2	72·9	52·1	51·4	75·1	73·0	70·8	76·3	57·0
2 weeks and under 3 weeks	32·6	56·6	35·4	40·6	38·1	37·0	48·9	39·2	21·0	40·2
3 weeks and under 1 month	21·7	25·4	27·1	40·2	38·3	43·2	43·8	31·7	26·7	38·0
1 month and under 2 months	119·6	102·9	100·0	104·8	76·8	91·6	93·4	83·3	74·4	94·8
2 months and under 3 months	108·7	87·9	90·6	94·9	66·0	75·1	59·1	66·7	53·4	82·0
3 months and under 4 months	54·3	78·6	78·1	73·3	52·5	46·3	56·9	60·8	53·4	65·3
4 months and under 5 months	–	46·2	39·6	55·7	46·3	55·6	43·8	43·3	32·4	50·1
5 months and under 6 months	87·0	30·1	44·8	47·0	40·4	41·2	32·8	40·0	36·3	43·0
6 months and under 7 months	21·7	37·0	51·0	42·2	40·0	26·7	24·1	34·2	32·4	39·2
7 months and under 8 months	32·6	28·9	28·1	34·8	30·9	21·6	27·7	30·0	32·4	32·0
8 months and under 9 months	—	23·1	33·3	35·1	29·7	23·7	29·2	29·2	30·5	31·8
9 months and under 10 months	43·5	31·2	29·2	29·8	23·0	25·7	18·2	27·5	26·7	27·2
10 months and under 11 months	43·5	19·7	22·9	26·0	21·9	34·0	26·3	24·2	34·4	25·2
11 months and under 1 year	32·6	20·8	22·9	23·9	18·2	12·3	13·1	22·5	17·2	21·0
Totals	**1000·0**	**1000·0**	**1000·0**	**1000·0**	**1000·0**	**1000·0**	**1000·0**	**1000·0**	**1000·0**	**1000·0**

Infantile Mortality in Canadian Cities.—Table **31** shows for the cities of 10,000 population and over, in the nine provinces of Canada covered in the present registration area, the numbers of infant deaths and the rates of deaths per 1,000 living births for the years 1926-29. In the latest year, Westmount, Que., had the lowest infant death rate, namely, 39·2, with Vancouver, 41·1, the next lowest. Ottawa and Saint John had comparatively high infant death rates, 120·9 and 115·8 respectively; the death rate in the capital shows a decided increase since 1928 and compares unfavourably with those in the other leading cities of Ontario (Toronto, Hamilton and London with 80·3, 74·2 and 61·6 respectively). The infant death rate of the city of Quebec shows a considerable reduction for 1929 as compared with 1928. The rate for Halifax has increased from 71·6 in 1928 to 110·9.

31.—Deaths and Death Rates of Children Under One Year of Age (exclusive of Stillbirths) in Cities of 10,000 and Over, 1926-1929.

City.	Infant Deaths.				Rate per 1000 Living Births.			
	1926.	1927.	1928.	1929.[2]	1926.	1927.	1928.	1929.[2]
Belleville, Ont	21	30	29	26	60·5	80·9	78·2	71·4
Brandon, Man	27	27	29	29	69·8	71·8	69·2	71·4
Brantford, Ont	35	37	45	67	57·4	57·2	63·3	94·1
Brockville, Ont	10	10	17	25	52·9	49·0	78·3	103·7
Calgary, Alta	131	85	108	115	83·5	51·8	61·6	57·5
Charlottetown, P.E.I	39	23	21	34	135·4	84·9	76·9	127·8
Chatham, Ont	32	38	40	31	73·4	83·9	81·0	65·7
Edmonton, Alta	155	113	137	161	83·4	58·2	63·8	71·1
Fort William, Ont	47	37	52	59	73·2	61·5	78·3	91·5
Galt, Ont	11	14	18	14	42·3	52·8	67·7	49·5
Glace Bay, N.S	67	121	73	70	111·3	181·7	107·2	104·9
Guelph, Ont	28	21	27	18	69·1	50·2	74·6	47·4
Halifax, N.S	127	124	102	161	93·5	83·0	71·6	110·9
Hamilton, Ont	199	187	190	235	71·7	65·2	63·2	74·2
Hull, Que	154	138	142	117	151·1	129·9	142·1	129·1
Kingston, Ont	58	63	44	64	110·5	106·1	76·4	103·6
Kitchener, Ont	46	48	35	47	66·8	69·8	46·6	58·2
Lachine, Que	70	39	50	50	164·3	88·6	107·8	107·8
Lethbridge, Alta	30	19	34	46	86·0	54·6	81·7	94·5

31.—Deaths and Death Rates of Children Under One Year of Age (exclusive of Still-births) in Cities of 10,000 and Over, 1926-1929—concluded.

City.	Infant Deaths.				Rate per 1000 Living Births.			
	1926.	1927.	1928.	1929.[2]	1926.	1927.	1928.	1929.[2]
Lévis, Que	50	31	44	30	172·4	98·4	140·6	96·8
London, Ont	91	102	76	84	68·4	79·3	52·9	61·6
Moncton, N.B	42	44	37	35	80·5	88·2	76·8	61·8
Montreal, Que	2,827	2,569	2,925	2,717	143·9	132·0	144·4	131·8
Moose Jaw, Sask	36	41	42	35	55·5	65·5	68·1	55·7
New Westminster, B.C	28	17	29	27	55·3	34·6	54·2	50·3
Niagara Falls, Ont	30	21	34	41	65·9	42·7	76·4	82·2
North Bay, Ont	38	33	29	30	89·8	81·3	66·7	73·9
Oshawa, Ont	40	65	48	48	78·1	109·2	68·3	66·0
Ottawa, Ont	342	286	320	353	119·2	95·2	106·6	120·9
Outremont, Que	7	4	8	10	55·6	29·6	73·4	78·7
Owen Sound, Ont	13	15	18	17	41·0	50·5	48·9	45·2
Peterborough, Ont	39	30	30	48	72·9	55·0	53·8	77·8
Port Arthur, Ont	52	43	35	55	104·4	84·3	62·7	95·0
Quebec, Que	773	643	776	624	185·6	147·9	173·5	140·0
Regina, Sask	86	84	84	102	78·7	69·8	61·6	67·4
St. Boniface, Man	57	59	52	63	74·9	78·5	62·7	70·5
St. Catharines, Ont	39	31	50	37	65·9	53·7	87·7	65·5
St. Hyacinthe, Que	54	57	50	43	182·4	179·8	158·7	118·8
Saint John, N.B	118	103	103	133	107·6	88·3	95·1	115·8
St. Thomas, Ont	21	20	12	18	62·9	60·8	35·2	58·8
Sarnia, Ont	34	43	30	31	90·4	98·9	70·4	66·2
Saskatoon, Sask	87	105	83	74	95·7	109·1	79·4	65·1
Sault Ste. Marie, Ont	40	37	38	46	72·5	64·0	60·6	69·6
Shawinigan Falls, Que	104	104	122	104	167·7	155·2	173·5	162·0
Sherbrooke, Que	88	76	66	69	122·7	93·9	87·6	84·4
Stratford, Ont	30	21	19	18	82·0	56·5	47·4	47·9
Sydney, N.S	54	46	35	22	119·2	91·8	72·3	43·9
Toronto, Ont	843	810	895	1,002	75·4	70·8	72·5	80·3
Three Rivers, Que	211	247	234	215	171·0	186·1	162·0	166·8
Vancouver, B.C.[1]	195	193	164	157	55·0	52·9	43·0	41·1
Verdun, Que	82	88	115	88	82·3	87·4	108·7	80·4
Victoria, B.C	28	32	35	33	39·3	48·2	48·4	44·6
Westmount, Que	3	1	6	2	55·6	26·3	142·9	39·2
Windsor, Ont	181	142	108	122	85·3	68·0	64·2	73·8
Winnipeg, Man	313	273	278	250	69·6	60·6	61·1	56·2

[1] Though Point Grey and South Vancouver were not incorporated into Vancouver until Jan. 1, 1929, their statistics are included in the figures for Vancouver for the years 1926–1928 for comparative purposes.

[2] Provisional figures.

Infantile Mortality in Various Countries.—The rate of infantile mortality to living births has been greatly reduced in civilized countries by the recent advances in medical science and in sanitation. The low record is held at the present time by New Zealand, where in 1928 the rate of infantile mortality was only 36·2 per 1,000 living births as compared with 68 in 1905. Norway, the Netherlands and Switzerland with rates of 51·0, 52·3 and 53·6 in the latest available years, were the lowest among European countries.

As showing the improvement in recent years, it may be stated that the rate of infantile mortality in England and Wales has been reduced from 128 per 1,000 living births in 1905 to 65·1 in 1928, while the rate in Germany has declined from 196 in 1904 to 89·0 in 1928. In the Netherlands, again, the rate has declined from 131 per 1,000 living births in 1905 to 52·3 in 1928. Statistics are given by leading countries and by provinces in Table **32.**

32.—Rate of Infantile Mortality per 1,000 Living Births in Various Countries of the World in Recent Years.

Country or Province.	Year.	Rate of Infantile Mortality.	Country or Province.	Year.	Rate of Infantile Mortality.
New Zealand	1928	36·2	France	1927	83·7
Queensland	1928	46·0	Finland	1928	84·0
South Australia	1928	48·0	Scotland	1928	85·7
Western Australia	1928	48·0	Latvia	1926	87·9
British Columbia	1928	50·5	Germany	1928	89·0
Prince Edward Island	1928	50·9	Prussia	1928	89·0
Norway	1927	51·0	**Canada**	**1928**	**89·5**
Netherlands	1928	52·3	New Brunswick	1928	95·6
Australia	1928	53·0	Belgium	1927	98·4
Switzerland	1928	53·6	Uruguay	1928	99·5
New South Wales	1928	55·0	Newfoundland	1923	104·7
Victoria	1928	56·0	Estonia	1923	107·0
Sweden	1928	61·9	Austria	1928	119·6
Tasmania	1928	64·0	Italy	1927	120·2
Saskatchewan	1928	64·4	Quebec	1928	123·6
England and Wales	1928	65·1	Spain	1928	126·0
Manitoba	1928	67·0	Japan	1928	137·6
Irish Free State	1928	67·9	Salvador	1926	155·0
British Isles	1928	68·0	Czechoslovakia	1927	157·0
			British India	1927	166·9
United States (Birth Reg. Area)	1928	68·0	Chile	1928	169·9
Union of South Africa (Whites)	1928	71·0	Jamaica	1925	173·6
Ontario	1928	71·2	Hungary	1928	176·9
Alberta	1928	76·5	Ceylon	1928	177·2
Northern Ireland	1928	77·9	Roumania	1927	209·0
Nova Scotia	1928	79·1	Egypt	1927	221·0
Denmark	1927	83·0	Costa Rica	1923	222·1

Infantile Mortality in Cities.—In former times cities were considered to be "the graveyards of population". The number of deaths, consequent upon the rapid spread of infectious diseases, was generally greater than the number of births, and it was the prevailing opinion that cities would naturally come to an end if they were not being constantly reinforced by fresh young life from the prolific countryside. The unhealthiness of cities was especially destructive of infant life, and it is one of the greatest triumphs of our time that city life is in our days, if not as healthy, yet not necessarily more dangerous to human life and especially to infant life, than life in the country as a whole.

To give particular examples, the rate of infantile mortality in London, England, was 67 per 1,000 living births in 1928, as compared with a rate for England and Wales of 65·1 per 1,000. New York experienced in 1928 an infantile mortality of 65 per 1,000, as against a rate of 69 per 1,000 for the birth registration area of the United States in 1926. Paris on the other hand, had in 1927 an infantile mortality of 86 per 1,000 living births, as compared with 83·7 for France. Again, Berlin in 1928 had an infant mortality of 83 per 1,000 living births, as compared with 89 in Germany, and Vienna an infant mortality in 1924 of 99 per 1,000 living births, as compared with 127·0 for Austria in the same year.

In Canada, Montreal had in 1929 an infantile mortality of 131·8 per 1,000 living births as compared with 120·5 for the province of Quebec. Toronto, too, had in 1929 an infantile mortality of 80·3 per 1,000 living births as against 76·0 for the province of Ontario, while Winnipeg and Vancouver had much lower infantile mortality rates than their respective provinces.

33.—Rate of Infantile Mortality per 1,000 Living Births in Great Cities of the World in Recent Years.

City.	Year.	Rate of Infantile Mortality.	City.	Year.	Rate of Infantile Mortality.
Oslo	1928	32	Toronto	1928	73
Wellington	1928	35	Edinburgh	1928	75
Auckland	1928	41	Moncton	1928	77
Amsterdam	1928	43	Hamburg	1928	78
Vancouver[1]	1928	43	La Plata	1920	78
Brisbane	1928	48	Munich	1928	79
Victoria, B.C	1928	48	Saskatoon	1928	79
Adelaide	1928	49	Antwerp	1926	80
Sydney, N.S.W	1928	49	Hobart	1928	81
Stockholm	1928	50	Berlin	1928	83
London, Ont	1928	53	Dresden	1928	84
Frankfort-on-Main	1926	54	Johannesburg	1928	87
Melbourne	1928	57	Cologne	1928	88
Copenhagen	1928	59	Cork	1926	88
Cape Town	1928	60	Manchester	1928	90
Perth, W. Australia	1928	61	Liverpool	1928	92
Winnipeg	1928	61	Saint John	1928	95
Calgary	1928	62	Paris	1928	96
Regina	1928	62	Leipzig	1928	99
Hamilton	1928	63	Vienna	1924	99
Chicago	1928	64	Prague	1925	100
Edmonton	1928	64	Breslau	1928	101
Birmingham, Eng	1928	65	Glasgow	1928	107
New York	1928	66	Ottawa	1928	107
Washington	1928	66	Montreal	1928	144
London, Eng	1928	67	Quebec	1928	174
Brandon	1928	69	Madras	1927	230
Halifax	1928	72	Bombay	1928	311
Sheffield	1928	73			

[1] Includes Point Grey and South Vancouver.

The infant mortality in the cities of Canada has been greatly reduced in the years since the inauguration of Dominion vital statistics. Thus the rate for Toronto has fallen from 90 in 1921 to 80 in 1929, that for Winnipeg from 78 to 56, for Vancouver from 56 to 41, for Hamilton from 88 to 74, for Ottawa from 130 to 121, for London from 92 to 62, for Edmonton from 89 to 71, for Halifax from 135 to 111, for Saint John from 147 to 116. Altogether, in the 10 cities of 40,000 population and over in the former registration area of Canada, there were 38,488 living births in 1921 and 3,541 infant deaths, being a rate of 92 per 1,000 living births. In 1929 in these same cities there were 35,067 living births, but only 2,651 infant deaths, or a rate of 75·6 per 1,000 living births.

Maternal Mortality.—Of cognate interest with infantile mortality is the maternal mortality arising out of child-birth. This maternal mortality is shown by Table **34** to be at its lowest among mothers in their twenties, and to increase with mothers of more advanced years. The mortality among mothers of different ages per 1,000 living births to mothers at those ages in the eight provinces constituting the registration area in the years 1921 to 1925, is shown for the years 1921 to 1928, while the totals are given for all the provinces for 1926 to 1929. The maternal mortality is shown by age groups for 1929 and by totals for earlier years in Table **35,** also by causes for 1929 in Table **36.**

34.—Maternal Deaths in the Former Registration Area, by Age Groups, with Rates per 1,000 Living Births, 1921-1928, and Totals for Canada, 1926-1929.

NOTE.—1929 figures are subject to revision.

Age Group.	Year.	Living Births.	Maternal Deaths.	
			No.	Rate per 1,000 Living Births.
Under 20 years..	1921	10,336	43	4·2
	1922	10,372	47	4·5
	1923	9,440	46	4·9
	1924	9,832	52	5·3
	1925	10,255	44	4·3
	1926	9,779	47	4·8
	1927	10,424	41	3·9
	1928	10,977	63	5·7
20–24 years......	1921	42,237	137	3·2
	1922	40,093	147	3·7
	1923	37,912	140	3·7
	1924	38,208	155	4·1
	1925	37,212	143	3·8
	1926	36,672	157	4·3
	1927	37,791	155	4·1
	1928	39,262	160	4·1
25–29 years.....	1921	46,764	189	4·0
	1922	45,309	193	4·3
	1923	43,240	159	3·7
	1924	42,982	190	4·4
	1925	42,016	181	4·3
	1926	40,300	168	4·2
	1927	39,786	193	4·9
	1928	40,020	165	4·1
30–39 years.....	1921	60,222	401	6·7
	1922	58,941	398	6·8
	1923	57,098	404	7·1
	1924	57,143	438	7·7
	1925	55,944	382	6·8
	1926	54,516	405	7·4
	1927	53,987	390	7·2
	1928	53,692	390	7·3

Age Group.	Year.	Living Births.	Maternal Deaths.	
			No.	Rate per 1,000 Living Births.
40–49 years.....	1921	9,420[1]	98	10·4
	1922	9,458	121	12·8
	1923	9,178	99	10·8
	1924	9,405	110	11·7
	1925	9,414	122	13·0
	1926	9,299	111	11·9
	1927	9,113	117	12·8
	1928	9,170	108	11·8
50 years and over.	1921	[2]	[2]	[2]
	1922	21	1	–
	1923	29	1	–
	1924	25	–	–
	1925	20	1	–
	1926	19	2	–
	1927	23	1	–
	1928	15	1	–
Totals......	**1921**	**168,979**	**868**	**5·1**
Totals......	**1922**	**164,194**	**907**	**5·5**
Totals......	**1923**	**156,897**	**849**	**5·4**
Totals......	**1924**	**157,595**	**945**	**6·0**
Totals......	**1925**	**154,861**	**873**	**5·6**
Totals......	**1926**	**150,585**	**890**	**5·9**
Totals......	**1927**	**151,124**	**897**	**5·9**
Totals......	**1928**	**153,136**	**887**	**5·8**
Totals......	**1929**	**153,535**	**907**	**5·9**
Totals......	**1926**[3]	**232,750**	**1,317**	**5·7**
Totals......	**1927**[3]	**234,188**	**1,300**	**5·6**
Totals......	**1928**[3]	**236,757**	**1,331**	**5·6**
Totals......	**1929**[3] [4]	**234,915**	**1,337**	**5·7**

[1] Living births to mothers 40 years old and over.

[2] Included with births to and deaths of mothers 40-49 years.

[3] Include Quebec.

[4] Provisional figures.

35.—Maternal Deaths in each Province by Age Groups, 1929, with Totals for 1921-1929.

NOTE.—1929 figures are subject to revision; 1921–1925 totals and rates are for provinces included in the former registration area.

Age Group.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.[1]
15–19	1	7	6	16	24[3]	9	5	6	5	79[3]
20–24	1	9	13	71	59	19	24	24	13	233
25–29	2	13	14	90	74	16	37	26	9	281
30–39	7	11	33	184	164	41	49	51	23	563
40 years and over	2	5	7	69	44	12	17	16	8	180
Age not stated	–	–	–	–	1	–	–	–	–	1
Totals, 1929	**13**	**45**	**73**	**430**	**366**	**97**	**132**	**123**	**58**	**1,337**
Totals, 1928	11	57	58	444	396	74	124	106	61	1,331
Totals, 1927	4	76	65	403	403	72	114	95	68	1,300
Totals, 1926	8	51	66	427	381	87	147	85	65	1,317
Totals, 1925	14	62	51	–	388	95	117	86	60	873[2]
Totals, 1924	9	78	49	–	418	86	145	91	69	945[2]
Totals, 1923	5	84	49	–	369	76	118	85	63	849[2]
Totals, 1922	8	70	59	–	370	99	127	111	63	907[2]
Totals, 1921	7	56	47	–	387	81	128	111	51	868[2]
Rate per 1,000 living births, 1929	7·8	4·2	7·1	5·3	5·4	6·8	6·2	7·3	5·6	5·7
Rate per 1,000 living births, 1928	6·1	5·2	5·8	5·3	5·8	5·1	5·8	6·8	5·9	5·6
Rate per 1,000 living births, 1927	2·4	6·8	6·2	4·9	6·0	5·1	5·4	6·4	6·7	5·6
Rate per 1,000 living births, 1926	4·6	4·6	6·4	5·2	5·6	5·9	7·1	5·9	6·5	5·7
Rate per 1,000 living births, 1925	8·4	5·4	4·7	–	5·5	6·4	5·7	5·8	5·8	5·6[2]
Rate per 1,000 living births, 1924	4·8	6·6	4·6	–	5·8	5·6	6·7	6·2	6·8	6·0[2]
Rate per 1,000 living births, 1923	2·5	7·2	4·6	–	5·3	4·6	5·6	5·6	6·3	5·4[2]
Rate per 1,000 living births, 1922	3·7	5·5	5·1	–	5·2	5·6	5·7	6·9	6·2	5·5[2]
Rate per 1,000 living births, 1921	3·2	4·3	4·1	–	5·2	4·4	5·7	6·7	4·8	5·1[2]

[1] Yukon and Northwest Territories are not included. [2] 1921–1925 totals and rates are for provinces included in the former registration area. [3] Includes one mother under 15 years.

36.—Maternal Deaths in each Province, by Causes of Death, 1929.[1]

NOTE.—For totals in 1928 and previous years, see Table 35.

Cause of Death.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
Accidents of pregnancy—total	–	5	2	23	24	5	9	12	2	82
(a) Abortion	–	2	–	9	10	5	3	4	1	34
(b) Ectopic gestation	–	2	2	9	7	–	4	5	–	29
(c) Others under this title	–	1	–	5	7	–	2	2	1	18
(d) Abortion self-induced	–	–	–	–	–	–	–	1	–	1
Puerperal hæmorrhage	2	4	9	70	45	13	19	10	6	178
Other accidents of childbirth	1	5	8	52	56	14	13	10	5	164
(a) Cæsarean section	–	1	1	6	23	6	4	6	2	49
(b) Difficult labour	–	–	1	7	9	1	2	–	1	21
(c) Other surgical operations and instrumental delivery	1	2	4	18	10	3	3	2	1	44
(d) Uncontrollable vomiting	–	1	2	20	12	3	2	1	1	42
(e) Rupture of uterus in labour, etc.	–	1	–	1	2	1	2	1	–	8
Puerperal septicæmia	3	15	26	130	111	36	49	68	22	460
Phlegmasia alba dolens, puerperal embolism, sudden death in puerperium	2	4	7	36	43	7	13	2	7	121
Puerperal albuminuria and convulsions	5	12	16	97	78	21	24	18	14	285
Following childbirth (not otherwise defined)	–	–	5	22	9	1	5	3	2	47
Puerperal diseases of the breast	–	–	–	–	–	–	–	–	–	–
Totals	13	45	73	430	366	97	132	123	58	1,337

[1] Figures subject to revision.

CHAPTER VI.—IMMIGRATION.

While the great majority of French-Canadians can trace their genealogy back to ancestors who left the Old World 250 years ago or even longer, most English-speaking Canadians are comparative newcomers both to Canada and to this continent, though a considerable number of the United Empire Loyalist families had been resident in the old colonies for generations before they moved north to establish English-speaking settlements in what is now the Dominion of Canada. During the middle third of the nineteenth century a great English-speaking migration entered the province of Ontario and made it for the first time more populous than the sister province of Quebec, thus bringing about an agitation for representation by population. Thereafter immigration slackened until the dawn of the twentieth century brought another flood of settlers to the newly opened territories of the great Northwest, resulting in an increase of population between the censuses of 1901 and 1911 greater than the combined increase of the three decades from 1871 to 1901.

Section 1.—Statistics of Immigration.

Immigration during the second decade of the twentieth century promised at its commencement to be even greater than during the first. In its first three years no fewer than 1,141,547 persons entered Canada for purposes of settlement. If this rate had been maintained, the population of Canada in 1921 would have been in excess of ten millions instead of being less than nine millions. The Great War, which commenced for Canada on Aug. 4, 1914, dried up the sources of our immigration in Great Britain and Continental Europe, where every able-bodied man was needed for the defence of his country. Immigrant arrivals from the United Kingdom in 1918 numbered only some 3,000, as compared with 150,000 in 1913; from Continental Europe, immigrant arrivals numbered less than 3,000 in 1916, as compared with approximately 135,000 in 1914. Since the war, immigration to the Dominion has never approached that of the pre-war period.

Immigration to Canada, as to other new countries, is generally greatest in "boom" periods, when capital as well as labour is leaving the older countries for the newer in order to secure the more remunerative investments generally to be found in virgin territories where the natural resources are still unexploited. In periods of depression, however, the sending abroad of both capital and labour is diminished, both preferring at such times to endure the ills which they know at home rather than take the risks of a new adventure at a distance. This proposition is aptly illustrated by the statistics of Table **2**, which show that during the past 34 years immigration was at its minimum in the year of deepest depression, 1897, that it steadily increased from that time until 1908, that a decline took place in the fiscal year ended Mar. 31, 1909, on account of the short depression of 1908, that thereafter immigration steadily increased till 1913, while the fiscal year ended Mar. 31, 1914, showed a decline due to the depression which occurred in the year preceding the war. In the fiscal years 1915 to 1919, political rather than economic conditions restricted immigration, but with the expansion of business at the end of the war our immigration was more than doubled, while the depression which characterized 1921 and 1922 is reflected in the declining immigration of the fiscal years ended Mar. 31, 1922 and 1923. The improvement in business conditions in 1923 was reflected in an increase of immigration during the fiscal year ended Mar. 31, 1924, when 148,560 settlers entered Canada as compared with less than half that number in the preceding year. The fiscal years ended Mar. 31, 1925 and 1926, showed declines of 24·4 and 35·3 p.c. respectively from the 1924 level, but the fiscal years ended 1927 to 1929 showed distinct improvement in harmony with the general upward trend of business, 1929 being the best post-war year. The fiscal year ended Mar. 31, 1930, showed a slight falling off, the number dropping from 167,722 to 163,288, a decline of 4,434 or 2·6 p.c.

The number of immigrant settlers in Canada is shown by calendar years from 1867 to 1880 in Table **1**, and the number of immigrant arrivals in Canada from the United Kingdom, the United States and other countries, is given by years from 1881 in Table **2**.

1.—Number of Immigrants Settling in Canada in each of the calendar years 1867-1880.

(Compiled from the Reports of the Minister of Agriculture.)

Year.	Number.	Year.	Number.
1867	14,666	1874	39,373
1868	12,765	1875	27,382
1869	18,630	1876	25,633
1870	24,706	1877	27,082
1871	27,773	1878	29,807
1872	36,578	1879	40,492
1873	50,050	1880	38,505

2.—Number of Immigrant Arrivals in Canada from the United Kingdom, the United States and other Countries, calendar or fiscal years ended 1881-1930.

NOTE.—See table on page 130 for estimate of the movement of population between the censuses of 1901 and 1921.

Calendar or Fiscal Year.	Immigrant Arrivals from—			Total.[4]	Fiscal Year.	Immigrant Arrivals from—			Total.
	United Kingdom.	United States.[4]	Other Countries.			United Kingdom.	United States.	Other Countries.	
1881[1]	17,033	21,822	9,136	47,991	1906	86,796	57,796	44,472	189,064
1882[1]	41,283	58,372	12,803	112,458	1907[3]	55,791	34,659	34,217	124,667
1883[1]	45,439	78,508	9,677	133,624	1908	120,182	58,312	83,975	262,469
1884[1]	31,787	65,886	6,151	103,824	1909	52,901	59,832	34,175	146,908
1885[1]	18,591	57,506	3,072	79,169	1910	59,790	103,798	45,206	208,794
1886[1]	23,507	40,650	4,995	69,152	1911	123,013	121,451	66,620	311,084
1887[1]	31,104	41,046	12,376	84,526	1912	138,121	133,710	82,406	354,237
1888[1]	30,852	44,952	12,962	88,766	1913	150,542	139,009	112,881	402,432
1889[1]	19,384	67,896	4,320	91,600	1914	142,622	107,530	134,726	384,878
1890[1]	21,793	50,336	2,938	75,067	1915	43,276	59,779	41,734	144,789
1891[1]	22,042	52,516	7,607	82,165	1916	8,664	36,937	2,936	48,537
1892[1]	22,636	–	8,360	30,996	1917	8,282	61,389	5,703	75,374
1893[1]	20,071	–	9,562	29,633	1918	3,178	71,314	4,582	79,074
1894[1]	16,004	–	4,825	20,829	1919	9,914	40,715	7,073	57,702
1895[1]	14,956	–	3,834	18,790	1920	59,603	49,656	8,077	117,336
1896[1]	12,384	–	4,451	16,835	1921	74,262	48,059	26,156	148,477
1897[1]	11,383	2,412	7,921	21,716	1922	39,020	29,345	21,634	89,999
1898[1]	11,173	9,119	11,608	31,900	1923	34,508	22,007	16,372	72,887
1899[1]	10,660	11,945	21,938	44,543	1924	72,919	20,521	55,120	148,560
1900[2]	5,141	8,543	10,211	23,895	1925	53,178	15,818	42,366	111,362
1901	11,810	17,987	19,352	49,149	1926	37,030	18,778	40,256	96,064
1902	17,259	26,388	23,732	67,379	1927	49,784	21,025	73,182	143,991
1903	41,792	49,473	37,099	128,364	1928	50,872	25,007	75,718	151,597
1904	50,374	45,171	34,786	130,331	1929	58,880	30,560	78,282	167,722
1905	65,359	43,543	37,364	146,266	1930	64,082	30,727	68,479	163,288

[1] Calendar year. [2] Six months, January to June, inclusive. [3] Nine months ended March 31.

[4] The figures of immigration from the United States for the years 1881 to 1891 do not distinguish between immigrants and non-immigrants. As the U.S.-born population of Canada, according to the census, increased only from 77,753 to 80,915 between 1881 and 1891, it would appear that the number of permanent immigrants from the United States in these years must have been comparatively small. No statistics of immigrants from the U.S. were collected for the years 1892 to 1896.

Sex and Conjugal Condition of Immigrants.—As shown by Table 3, the 163,288 immigrants who came to Canada in the fiscal year ended Mar. 31, 1930, included 97,062 males and 66,226 females, males constituting 59·4 p.c. of the total. In other words, three male immigrants came to Canada for every two females, and the discrepancy is greater when persons under 18 are left out of account, there being 74,062 adult male immigrants to 47,534 adult female immigrants. This disparity of the sexes among our immigrants is a phenomenon of long standing (Table 4), and taken together with the comparatively small difference between the numbers of the sexes in our total population, goes to indicate that a good deal of our male immigration is of a rather transient character. This conclusion is supported by the fact that 31,165 of the males who immigrated to Canada in 1930 reported themselves as married, as compared with 24,861 of the females. Evidently many of these married immigrants do not bring their wives. It is true they may expect to send for their wives later on, but on the other hand some of the married male immigrants of former years doubtless brought their wives out to join them in 1930.

3.—Sex and Conjugal Condition of Immigrants into Canada, by Age Groups, fiscal year ended Mar. 31, 1930.

Age Group by Years of Age.	Males.					Females.				
	Single.	Married.	Widowed.	Divorced.	Total.	Single.	Married.	Widowed.	Divorced.	Total.
0–14	16,940	–	–	–	16,940	15,877	–	–	–	15,877
15–19	12,174	61	1	1	12,237	6,314	503	3	1	6,821
20–24	18,048	2,342	9	8	20,407	8,459	4,266	29	11	12,765
25–29	10,786	7,821	83	29	18,719	4,537	6,577	79	52	11,245
30–39	4,905	12,462	210	112	17,689	2,633	8,421	363	113	11,530
40–49	1,161	5,749	272	77	7,259	575	3,481	571	52	4,679
50 and over	417	2,730	613	51	3,811	237	1,613	1,437	22	3,309
Totals	**64,431**	**31,165**	**1,188**	**278**	**97,062**	**38,632**	**24,861**	**2,482**	**251**	**66,226**

4.—Sex Distribution of Immigrants as Adult Males, Adult Females and Children, fiscal years ended Mar. 31, 1911-1930.

Fiscal Year.	Adult Males.	Adult Females.	Children under 14.	Total.	Fiscal Year.	Adult Males.	Adult Females.	Children under 14.	Total.
1911	185,198	71,038	54,848	311,084	1921	70,898	49,377	28,292	148,477
1912	211,266	82,922	60,049	354,237	1922	38,597	32,042	19,360	89,999
1913	238,779	95,168	68,485	402,432	1923	33,286	24,756	14,845	72,887
1914	224,348	94,028	66,502	384,878	1924	87,628	38,763	22,169	148,560
1915	74,143	41,990	28,656	144,789	1925	55,478	34,294	21,590	111,362
1916	23,139	15,478	9,920	48,537	1926	46,963	26,611	22,490[1]	96,064
1917	43,074	19,537	12,763	75,374	1927	80,512	33,277	30,202[1]	143,991
1918	47,497	17,775	13,802	79,074	1928	82,204	36,978	32,415[1]	151,597
1919	25,842	18,594	13,266	57,702	1929	94,861	38,937	33,924[1]	167,722
1920	40,872	50,006	26,458	117,336	1930	74,062	47,534	41,692[1]	163,288

[1] "Children" since 1926 includes all those under 18 years of age.

Racial Origin of Immigrants.—Where there is any considerable immigration into a democratic country, the racial and linguistic composition of the immigrants is of great importance. Canadians generally prefer that settlers should be of a readily assimilable type, already identified by race or language with one or other of the two great races now inhabiting this country and prepared for the assumption of the duties of democratic Canadian citizenship. Since the French are not to any great extent an emigrating people, this means in practice that the great bulk of the preferable settlers are those who speak the English language—those coming from the United Kingdom or the United States. Next in order of readiness of assimilation are the Scandinavians, Dutch and Germans, who readily learn English and are already acquainted with the working of democratic institutions. Settlers from Southern and Eastern Europe, however desirable from a purely economic point of view, are less readily assimilated, and the Canadianizing of the people from these regions who have come to Canada in the present century is a problem both in the agricultural Prairie Provinces and in the cities of the East. Less assimilable still, according to the general opinion of Canadians, are those who come to Canada from the Orient. On the whole the great bulk of Canadian immigration of the past generation has been drawn from the English-speaking countries and from those Continental European countries where the population is ethnically nearly related to the British, though for some years there was an increasing immigration of Slavs.

The racial origins of the immigrants who arrived in Canada in the fiscal years ended Mar. 31, 1929 and 1930 are shown in Table **5.**

5.—Racial Origin of Immigrants into Canada, Arriving via Ocean Ports and from the United States, fiscal years ended Mar. 31, 1929 and 1930.

Racial Origin.	1929.			1930.		
	Via Ocean Ports.	From U.S.	Total.	*Via* Ocean Ports.	From U.S.	Total.
British Races—						
English	30,355	9,181	39,536	32,278	9,379	41,657
Irish	9,199	3,767	12,966	10,159	3,762	13,921
Scotch	16,137	3,453	19,590	18,640	3,638	22,278
Welsh	3,189	300	3,489	3,005	332	3,337
Totals, British	58,880	16,701	75,581	64,082	17,111	81,193
Continental European Races—						
Albanian	28	7	35	26	1	27
Austrian	409	100	509	437	75	512
Belgian	1,222	79	1,301	696	92	788
Bohemian	8	86	94	20	81	101
Bulgarian	282	2	284	296	10	306
Croatian	990	24	1,014	771	11	782
Czech	846	5	851	434	14	448
Dalmatian	1	-	1	7	-	7
Dutch	1,599	741	2,340	1,755	703	2,458
Estonian	92	-	92	117	2	119
Finnish	3,651	100	3,751	4,565	82	4,647
French	745	3,934	4,679	697	4,419	5,116
German	12,806	3,803	16,609	14,281	3,733	18,014
Greek	736	70	806	634	48	682
Italian	792	272	1,064	1,277	236	1,513
Jewish	3,301	547	3,848	3,544	620	4,164

5.—Racial Origin of Immigrants into Canada, Arriving via Ocean Ports and from the United States, fiscal years ended Mar. 31, 1929 and 1930—concluded.

Racial Origin.	1929.			1930.		
	Via Ocean Ports.	From U.S.	Total.	*Via* Ocean Ports.	From U.S.	Total.
Continental European Races—*concluded.*						
Lettish	74	3	77	70	8	78
Lithuanian	1,608	18	1,626	964	22	986
Magyar	6,242	106	6,348	5,688	99	5,787
Maltese	18	1	19	40	1	41
Mexican	–	–	–	–	–	–
Montenegrin	–	–	–	–	2	2
Moravian	4	1	5	23	–	23
Polish	8,269	246	8,515	6,610	227	6,837
Portuguese	12	10	22	13	11	24
Roumanian	284	48	332	383	62	445
Russian	908	285	1,193	765	173	938
Ruthenian	15,571	39	15,610	11,291	41	11,332
Scandinavian—						
Danish	3,311	351	3,662	2,685	319	3,004
Icelandic	24	23	47	6	28	34
Norwegian	2,434	1,419	3,853	2,256	1,149	3,405
Swedish	3,297	874	4,171	2,918	736	3,654
Serbian	390	20	410	375	29	404
Slovak	4,303	40	4,343	2,879	46	2,925
Spanish	18	49	67	26	37	63
Spanish American	3	4	7	–	4	4
Swiss	490	156	646	473	117	590
Turkish	3	4	7	6	1	7
Yugoslav	2,824	32	2,856	921	35	956
Other countries	–	–	–	–	–	–
Totals, Continental European Races	77,595	13,499	91,094	67,949	13,274	81,223
Non-European Races—						
American Indian	–	23	23	–	22	22
Arabian	1	1	2	7	2	9
Armenian	17	10	27	14	16	30
Chinese	–	–	–	–	–	–
East Indian races	52	1	53	58	–	58
Japanese	445	1	446	194	–	194
Negro	96	280	376	195	251	446
Persian	1	–	1	1	–	1
Syrian	75	44	119	61	51	112
Totals, Non-European Races	687	360	1,047	530	342	872
Grand Totals	**137,162**	**30,560**	**167,722**	**132,561**	**30,727**	**163,288**

Languages of Immigrants.—The languages of immigrants 10 years old and over, arriving *via* ocean ports and from the United States, are shown for the fiscal years ended Mar. 31, 1929 and 1930, in Table **6.** English-speaking immigrants constituted 57 p.c. of the total in 1930 and German-speaking immigrants 9·6 p.c.

6.—Languages of Immigrants Ten Years Old and Over, Arriving via Ocean Ports and from the United States, fiscal years ended Mar. 31, 1929 and 1930.

Language.	1929.			1930.		
	Via Ocean Ports.	From U.S.	Total.	*Via* Ocean Ports.	From U.S.	Total.
English	52,849	22,560	75,409	55,441	22,459	77,900
Welsh	–	–	–	–	–	–
French	981	1,197	2,178	841	1,337	2,178
German	11,575	237	11,812	12,927	253	13,180
Norwegian	2,121	108	2,229	2,001	83	2,084
Swedish	3,208	100	3,308	2,883	86	2,969
Danish	2,940	53	2,993	2,358	51	2,412
Icelandic	23	2	25	7	1	8
Flemish	831	26	857	484	29	513
Walloon	–	–	–	–	–	–
Dutch	927	21	948	907	23	930
Finnish	3,311	31	3,342	4,173	26	4,199
Estonian	86	–	86	93	2	95
Lettish	60	2	62	50	2	52
Lithuanian	1,533	5	1,538	833	3	836
Russian	1,652	48	1,700	1,345	43	1,388
Yiddish	357	12	369	200	19	219
Hebrew	1,231	116	1,347	1,394	100	1,494
Ruthenian Russniak Ukrainian	11,947	11	11,958	7,139	8	7,147
Polish	9,956	66	10,022	7,435	46	7,481
Roumanian	292	21	313	368	10	378
Slovenian	254	–	254	167	1	168
Czech (Bohemian)	5,012	26	5,038	2,657	21	2,678
Croat (Serbian)	3,255	16	3,271	1,436	16	1,452
Hungarian (Magyar)	5,571	40	5,611	4,567	35	4,602
Korean	–	–	–	–	–	–
Italian	570	68	638	973	64	1,037
Spanish	11	8	19	13	16	29
Portuguese	2	–	2	1	1	2
Greek	679	35	714	590	25	615
Albanian	24	4	28	18	1	19
Turkish	1	3	4	4	–	4
Bulgarian	323	2	325	304	2	306
Chinese	–	–	–	–	–	–
Japanese	404	–	404	177	–	177
East Indian	42	–	42	40	–	40
Armenian (Aramaic)	10	4	14	11	3	14
Syrian (Arabian)	52	8	60	51	13	64
Totals	**122,090**	**24,830**	**146,920**	**111,888**	**24,782**	**136,670**

Nationalities of Immigrants.—In the latest fiscal year, ended Mar. 31, 1930, British subjects immigrating to Canada numbered 68,083 and American citizens 26,847, or together about 58 p.c. of the total number of immigrants shown in Table 7.

It has been previously pointed out that male immigrants are likely to include a large number of transients, and that the immigration of females is more likely to represent a permanent addition to the population of the country and the national or racial distribution of that addition. Out of 66,226 females immigrating to Canada in the fiscal year ended Mar. 31, 1930, 27,794 or 42 p.c. were British subjects and 10,564 or 16 p.c. American citizens. Thus nearly 60 p.c. were British or Americans by nationality. The remainder were practically all Continental Europeans, among whom Poles, with 10,208 or 15·4 p.c. of the whole, were the largest single group.

7.—Nationalities of Immigrants Arriving via Ocean Ports and from the United States, fiscal years ended Mar. 31, 1929 and 1930.

Nationality.	1929.			1930.		
	Via Ocean Ports.	From U.S.	Total.	*Via* Ocean Ports.	From U.S.	Total.
British	59,497	3,061	62,558	64,962	3,121	68,083
United States	108	26,539	26,647	96	26,751	26,847
Mexican	3	3	6	12	17	29
Central American	-	-	-	-	-	-
Costa Rican	-	-	-	1	-	1
South American	10	-	10	-	-	-
Argentinian	8	2	10	16	2	18
Brazilian	8	1	9	-	1	1
Chilian	-	1	1	1	4	5
Colombian	-	-	-	1	-	1
Paraguayan	-	-	-	1	2	3
Peruvian	-	-	-	1	4	5
Uruguayan	-	-	-	2	-	2
West Indian (not British)	2	3	5	-	-	-
Cuban	-	-	-	5	-	5
Porto Rican	-	-	-	-	1	1
Atlantic and Pacific Is. (not British)	-	-	-	3	-	3
Austrian	1,125	36	1,161	1,028	25	1,053
Belgian	1,278	31	1,309	794	23	817
Bulgarian	279	1	280	291	4	295
Czechoslovakian	7,214	25	7,239	4,327	17	4,344
Finnish	4,271	17	4,288	5,421	21	5,442
French	613	34	647	531	68	599
German	4,201	108	4,309	5,721	132	5,853
Greek	727	6	733	628	3	631
Dutch	1,192	47	1,239	1,144	27	1,171
Hungarian	5,165	24	5,189	4,914	13	4,927
Italian	744	38	782	1,192	28	1,220
Yugoslav	5,285	19	5,304	3,854	10	3,864
Polish	25,739	66	25,805	21,315	44	21,359
Roumanian	4,832	25	4,857	5,262	18	5,280
Russian	3,005	118	3,123	1,378	92	1,470
Danish	3,319	68	3,387	2,704	66	2,770
Icelandic	29	4	33	9	2	11
Norwegian	2,414	128	2,542	2,240	85	2,325
Swedish	2,636	106	2,742	2,020	88	2,108
Swiss	628	26	654	675	28	703
Ukrainian	92	4	96	4	4	8
Albanian	12	-	12	28	1	29
Estonian	113	-	113	145	2	147
Latvian	124	2	126	207	5	212
Lithuanian	1,929	6	1,935	1,343	3	1,346
Portuguese	2	-	2	2	-	2
Spanish	13	3	16	9	8	17
Luxemburger	27	-	27	19	-	19
African (not British)	-	2	2	-	-	-
Arabian	22	2	24	33	-	33
Armenian	3	-	3	1	-	1
Chinese	-	-	-	-	-	-
Japanese	415	-	415	148	-	148
Korean	-	-	-	-	-	-
Persian	6	-	6	1	-	1
Syrian	58	3	61	56	7	63
Turkish	14	1	15	16	-	16
Totals	**137,162**	**30,560**	**167,722**	**132,561**	**30,727**	**163,288**

Countries of Birth of Immigrants.—In Table **8** will be found the countries of birth of the immigrants into Canada in the latest two fiscal years. The figures show that England was the birthplace of more of our 1930 immigrants than any other single country, with 31,109. The United States came second with 24,315, Poland third with 21,624, Scotland fourth with 19,752 and Ireland fifth with 9,799, these last two countries contributing largely in view of their comparatively small populations. Of the immigrants arriving in 1930, 5,556 were born in Germany, 5,415 in Finland, 5,273 in Roumania, 4,976 in Hungary, 4,336 in Czechoslovakia and 3,784 in Wales. The aggregate of settlers born in the four Scandinavian countries was 7,492.

8.—Countries of Birth of Immigrants Arriving via Ocean Ports and from the United States, fiscal years ended Mar. 31, 1929 and 1930.

Country of Birth.	1929.			1930.		
	Via Ocean Ports.	From U.S.	Total.	*Via* Ocean Ports.	From U.S.	Total.
Canada	8	1,195	1,203	38	1,379	1,417
United States	378	23,918	24,296	426	23,889	24,315
England	27,791	1,684	29,475	29,377	1,732	31,109
Ireland (Free State)	8,675	377	9,052	2,584	216	2,800
Ireland (Northern)				6,834	165	6,999
Scotland	16,173	869	17,042	18,832	920	19,752
Wales	3,782	64	3,846	3,710	74	3,784
Lesser British Isles	153	13	166	193	13	206
Newfoundland	1,405	104	1,509	1,661	73	1,734
St. Pierre and Miquelon	4	1	5	9	1	10
Mexico	13	12	25	22	20	42
Central America	4	1	5	8	–	8
Honduras (Br.)	7	2	9	1	3	4
Other South America	18	4	22	18	13	31
Argentina	18	5	23	24	5	29
Brazil	14	6	20	7	1	8
Chile	10	3	13	9	7	16
Guiana, British	29	6	35	37	8	45
West Indies (Br.)	158	26	184	277	25	302
West Indies (not Br.)	7	11	18	12	11	23
Austria	1,113	109	1,222	1,003	86	1,089
Belgium	1,258	60	1,318	797	62	859
Bulgaria	233	2	235	231	7	238
Czechoslovakia	7,165	39	7,204	4,302	34	4,336
Finland	4,266	40	4,306	5,368	47	5,415
France	648	67	715	568	112	680
Germany	3,854	254	4,108	5,285	271	5,556
Greece	778	39	817	673	32	705
Holland	1,169	58	1,227	1,114	53	1,167
Hungary	5,177	61	5,238	4,914	62	4,976
Italy	763	95	858	1,243	106	1,349
Yugoslavia	5,300	29	5,329	3,870	27	3,897
Poland	25,945	138	26,083	21,478	146	21,624
Roumania	4,860	53	4,913	5,227	46	5,273
Russia	1,582	319	1,901	1,668	296	1,961
Denmark	3,308	113	3,421	2,682	115	2,797
Iceland	30	9	39	11	5	16
Norway	2,429	297	2,726	2,248	238	2,486
Sweden	2,619	271	2,890	1,998	195	2,193
Switzerland	638	54	692	601	43	644
Ukraine	1,620	3	1,623	152	5	157
Albania	31	4	35	29	1	30
Estonia	109	–	109	135	1	136
Latvia	138	5	143	182	9	191
Lithuania	1,932	11	1,943	1,317	8	1,325
Malta	34	1	35	46	1	47
Portugal	4	1	5	2	2	4
Spain	21	3	24	16	12	28
Other European countries, including Luxemburg	37	3	40	31	2	33
Australia	249	38	287	231	39	270
New Zealand	143	14	157	157	18	175
Africa (Br.)	119	12	131	123	19	142
Africa (not Br.)	15	2	17	30	1	31
Other Asia	33	3	36	56	4	60
Armenia	2	2	4	–	1	1
China	63	8	71	57	9	66
India (Br.)	237	10	247	256	6	262

8.—Countries of Birth of Immigrants Arriving via Ocean Ports and from the United States, fiscal years ended Mar. 31, 1929 and 1930—concluded.

Country of Birth.	1929.			1930.		
	Via Ocean Ports.	From U.S.	Total.	*Via* Ocean Ports.	From U.S.	Total.
Japan	454	–	454	202	3	205
Korea	3	–	3	1	1	2
Persia	4	–	4	3	–	3
Syria	56	9	65	54	19	73
Turkey	32	13	45	51	15	66
Atlantic Ocean islands (Br.)	31	6	37	49	4	53
Atlantic Ocean islands (not Br.)	13	4	17	24	9	33
Totals	**137,162**	**30,560**	**167,722**	**132,561**	**30,727**	**163,288**

Ports of Arrival of Immigrants.—Throughout the greater part of our history, Quebec has been the port at which the greatest number of our immigrants have landed. In the past few years, however, there has been a great increase in the immigrants arriving at the port of Halifax, those entering at this port in 1930 being twice as many as in 1924. This would appear to be due to increasing immigration in the early spring months before the St. Lawrence is open for traffic. Figures for recent years are given in Table **9.**

9.—Immigrants Arriving in Canada, by Chief Ports of Arrival, fiscal years ended Mar. 31, 1924-30.

Port.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
Quebec	71,290	59,572	40,963	63,792	64,392	74,653	70,688
Saint John	23,533	9,501	12,245	16,889	14,176	13,046	14,631
Halifax	19,279	21,965	20,490	37,677	43,072	44,936	42,584
North Sydney	4,884	1,085	435	712	832	1,173	1,176
Sydney	113	72	5	89	7	15	17
Montreal	437	200	144	192	272	340	516
Vancouver	1,130	1,144	1,333	1,220	1,386	1,115	1,038
Victoria	633	459	361	513	475	422	229
New York	6,157	1,452	1,163	1,402	1,641	1,397	1,607
Boston	249	51	26	47	218	16	23
Other ports	334	43	121	433	119	49	52
From the United States	20,521	15,818	18,778	21,025	25,007	30,560	30,727
Totals	**148,560**	**111,362**	**96,064**	**143,991**	**151,597**	**167,722**	**163,288**

Destinations of Immigrants.—The immediate destinations of the immigrants arriving in Canada are given for the period from 1901 to 1930 in Table **10**, which may be compared with the census tables on pages 124 and 125 showing the increase of population in the decades between 1901 and 1921.

While immigration to the Maritime Provinces during the first thirty years of the twentieth century was comparatively small, totalling 204,981, that to Quebec and Ontario was very large. From 1905 to 1928 Ontario received a larger number of immigrants annually than any other province of the Dominion, while Manitoba was usually second in this respect. In 1929 immigration to Manitoba exceeded that to Ontario by 10,000 persons, but in 1930 the positions were again reversed. The immigration to Eastern Canada (Maritime Provinces, Quebec and Ontario) has almost equalled that to Western Canada (Manitoba, Saskatchewan, Alberta and British Columbia) in the 30-year period.

10.—Destinations of Immigrants into Canada, by Provinces, fiscal years ended June 30, 1901-1906, and Mar. 31, 1907-30.

Fiscal Year.	Maritime Provinces.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia and Yukon Terr'y.	Not Shown.	Total.
1901	2,144	10,216	6,208	11,254	14,160		2,600	2,567	49,149
1902	2,312	8,817	9,798	17,422	22,199		3,483	3,348	67,379
1903	5,821	17,040	14,854	39,535	43,898		5,378	1,838	128,364
1904	5,448	20,222	21,266	34,911	40,397		6,994	1,093	130,331
1905	4,128	23,666	35,811	35,387	39,289		6,008	1,977	146,266
1906	6,381	25,212	52,746	35,648	28,728	26,177	12,406	1,766	189,064
1907 (9 mos.)	6,510	18,319	32,654	20,273	15,307	17,559	13,650	395	124,667
1908	10,360	44,157	75,133	39,789	30,590	31,477	30,768	195	262,469
1909	6,517	19,733	29,265	19,702	22,146	27,651	21,862	32	146,908
1910	10,644	28,524	46,129	21,049	29,218	42,509	30,721	-	208,794
1911	13,236	42,914	80,035	34,653	40,763	44,782	54,701	-	311,084
1912	15,973	50,602	100,227	43,477	46,158	45,957	51,843	-	354,237
1913	19,806	64,835	122,798	43,813	45,147	48,073	57,960	-	402,432
1914	16,730	80,368	123,792	41,640	40,999	43,741	37,608	-	384,878
1915	11,104	31,053	44,873	13,196	16,173	18,263	10,127	-	144,789
1916	5,981	8,274	14,743	3,487	6,001	7,215	2,836	-	48,537
1917	5,710	10,930	26,078	5,247	9,874	12,418	5,117	-	75,374
1918	5,247	9,059	23,754	6,252	12,382	16,821	5,559	-	79,074
1919	3,860	6,772	13,826	4,862	8,552	11,640	8,190	-	57,70
1920	5,554	13,078	39,344	11,387	14,287	20,000	13,686	-	117,336
1921	6,353	21,100	62,572	12,649	13,392	17,781	14,630	-	148,477
1922	3,222	13,724	34,590	8,904	9,894	11,825	7,840	-	89,999
1923	3,298	9,343	30,444	6,037	8,186	8,798	6,781	-	72,887
1924	7,940	19,979	65,280	21,451	13,200	10,430	10,280	-	148,560
1925	3,153	16,279	45,912	11,772	14,041	10,952	9,253	-	111,362
1926	1,670	11,367	29,293	19,079	13,816	12,540	8,212	87	96,064
1927	3,125	16,642	40,604	36,739	20,085	16,367	10,410	16	143,991[1]
1928	3,741	18,469	45,052	43,596	15,331	15,473	9,891	5	151,597[1]
1929	4,063	18,659	47,656	57,651	14,789	16,243	8,652	8	167,722[1]
1930	4,950	23,917	59,974	39,132	11,003	14,970	9,333	1	163,288[1]
Totals	**204,981**	**703,270**	**1,374,711**	**739,994**	**1,209,667**		**476,779**	**13,328**	**4,722,781**

[1] Includes immigrants destined for the Northwest Territories: 3 in 1927, 39 in 1928, 1 in 1929 and 8 in 1930.

Occupations of Immigrant Arrivals.—As stated below in the paragraphs dealing with immigration policy, the settlers most universally acceptable to Canadians are those who settle on the land or those females who enter domestic service. In Table **11** will be found statistics of the occupations of immigrants arriving in Canada during the fiscal years ended Mar. 31, 1929 and 1930.

11.—Occupations and Destinations of Immigrants Arriving in Canada in the fiscal years ended Mar. 31, 1929 and 1930.

Occupation.	1929.			1930.		
	Via Ocean Ports.	From the United States.	Total.	*Via* Ocean Ports.	From the United States.	Total.
Farmers and farm labourers—						
Men	67,509	5,519	73,028	41,361	4,368	45,729
Women	4,796	1,313	6,109	6,264	1,151	7,415
Children	11,859	2,208	14,067	14,257	1,650	15,907
General labourers—						
Men	3,860	2,181	6,041	6,617	2,270	8,887
Women	689	306	995	1,213	357	1,570
Children	1,214	357	1,571	2,244	346	2,590
Mechanics—						
Men	4,013	3,956	7,969	6,259	3,979	10,238
Women	1,272	757	2,029	1,888	901	2,789
Children	873	577	1,450	1,542	637	2,179
Clerks, traders, etc.—						
Men	2,221	2,160	4,381	3,085	2,373	5,458
Women	964	848	1,812	1,414	968	2,382
Children	501	453	954	745	520	1,265

11.—Occupations and Destinations of Immigrants Arriving in Canada in the fiscal years ended Mar. 31, 1929 and 1930—concluded.

Occupation.	1929.			1930.		
	Via Ocean Ports.	From the United States.	Total.	*Via* Ocean Ports.	From the United States.	Total.
Miners—						
Men	510	193	703	513	155	668
Women	86	30	116	94	20	114
Children	104	32	136	137	11	148
Domestics—						
Women[1]	15,615	626	16,241	18,114	634	18,748
Not classified—						
Men	1,304	1,435	2,739	1,585	1,497	3,082
Women	9,598	3,462	13,060	12,274	4,016	16,290
Children	10,174	4,147	14,321	12,955	4,874	17,829
Totals—						
Men	79,417	15,444	94,861	59,420	14,642	74,062
Women[1]	33,020	7,342	40,362	41,261	8,047	49,308
Children	24,725	7,774	32,499	31,880	8,038	39,918
Totals	**137,162**	**30,560**	**167,722**	**132,561**	**30,727**	**163,288**
Destinations—						
Maritime Provinces	3,302	761	4,063	3,736	1,214	4,950
Quebec	14,074	4,585	18,659	18,808	5,109	23,917
Ontario	35,192	12,464	47,656	46,933	13,041	59,974
Manitoba	56,299	1,352	57,651	38,045	1,087	39,132
Saskatchewan	11,328	3,461	14,789	8,347	2,656	11,003
Alberta	10,926	5,317	16,243	10,193	4,777	14,970
British Columbia	6,036	2,591	8,627	6,482	2,770	9,252
Yukon and N.W.T.	4	22	26	17	72	89
Not given	1	7	8	-	1	1

[1] Includes domestics under 18 years of age.

Prohibited Immigrants.—The following is a summary of the classes whose admission to Canada is prohibited under the existing regulations. These regulations, however, do not apply to Canadian citizens or persons having Canadian domicile:—

(1) Imbeciles, feebleminded persons, epileptics, insane persons, persons of constitutional psychopathic inferiority, persons suffering from chronic alcoholism and those mentally defective to such a degree as to affect their ability to earn a living.

(2) Persons afflicted with tuberculosis or with any loathsome, contagious or infectious disease or a disease which may be dangerous to public health; immigrants who are dumb, blind or otherwise physically defective.

(3) Prostitutes and women and girls coming to Canada for any immoral purpose, pimps, procurers and persons who have been convicted of any crime involving moral turpitude.

(4) Professional beggars or vagrants, charity-aided immigrants and persons who are likely to become public charges.

(5) Anarchists, persons who disbelieve in or are opposed to organized government or who belong to any organization teaching disbelief in or opposition to organized government, persons who have been guilty of espionage or high treason and persons who have been deported from Canada.

(6) Persons over fifteen years of age unable to read. The literacy test, however, does not apply to a father or grandfather over 55 years of age, or to a wife, mother, grandmother or unmarried daughter or widowed daughter.

The Immigration Act provides for the rejection and deportation of immigrants belonging to the prohibited classes, and also for the deportation of those who become undesirables within five years after legal entry.

The operation of the above regulations is illustrated in Tables **12** and **13**, which give the numbers of immigrants rejected or deported after admission, the causes of such rejection or deportation, and the nationalities of those deported, for each of the 10 fiscal years ended 1921 to 1930, together with the totals for the 18 fiscal years 1903-20 and the 28 fiscal years from 1903 to 1930 inclusive.

12.—Rejections of Immigrants upon Arrival at Ocean Ports, by Principal Causes and Nationalities, fiscal years ended 1903-30, with Totals 1903-20 and 1903-30.

Item.	1903 to 1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	Total.
By Causes—												
Medical causes	4,995	99	60	37	130	83	40	95	104	94	78	5,815
Civil causes	8,226	854	1,023	595	862	948	226	594	215	266	243	14,052
Totals	**13,221**	**953**	**1,083**	**632**	**992**	**1,031**	**266**	**689**	**319**	**360**	**321**	**19,867**
By Nationalities—												
British	1,774	193	153	98	187	199	109	209	150	115	160	3,347
United States	287	11	7	4	6	11	–	5	2	–	8	341
Other countries	11,160	749	923	530	799	821	157	475	167	245	153	16,179

13.—Deportations of Immigrants after Admission, by Principal Causes and by Nationalities, fiscal years ended 1903-30, with Totals 1903-20 and 1903-30.

Item.	1903 to 1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	Total.
By Causes—												
Medical causes	3,781	133	313	282	649	420	410	470	519	650	600	8,227
Public charges	5,505	236	950	679	775	543	506	354	430	444	2,106	12,528
Criminality	3,313	586	630	543	511	520	453	447	426	441	591	8,461
Other civil causes	1,090	52	105	76	93	58	189	149	257	194	107	2,370
Accompanying deported persons	270	37	48	52	78	145	158	165	254	235	559	2,001
Totals	**13,959**	**1,044**	**2,046**	**1,632**	**2,106**	**1,686**	**1,716**	**1,585**	**1,886**	**1,964**	**3,963**	**33,587**
By Nationalities—												
British	7,294	295	1,107	888	1,377	985	899	808	1,047	1,083	2,983	18,766
United States	3,771	616	725	520	417	321	330	351	297	294	228	7,870
Other countries	2,894	133	214	224	312	380	487	426	542	587	752	6,951

Juvenile Immigrants.—Among the most generally acceptable immigrant arrivals are the juveniles of both sexes who have been trained by highly accredited British organizations for Canadian life before coming to Canada, the boys being taught the lighter branches of farm work, and the girls instructed in domestic occupations. On arrival in Canada the boys are placed on farms, while the girls are placed either in town or country, but the organizations remain the guardians of the children until they have reached maturity, and in addition the children are subject to efficient and recurrent government inspection until they reach their nineteenth year. This inspection is under the control of the Supervisor of Juvenile Immigration.

Under the British Empire Settlement Agreement the term "children" is now applied to boys from 14 to 19 years of age and girls from 14 to 17 migrating to Canada under provincial or approved society auspices. These organizations have been assisted by the Oversea Settlement Agreement, which provides free transportation for the boys and girls from the British Isles migrating to Canada under their auspices. Juvenile immigrants of this type totalled 4,033 boys and 248 girls in the fiscal year ended Mar. 31, 1930.

The number of juveniles immigrated to Canada in each year since 1901 is given in Table **14.**

14.—British Juvenile Immigrants, fiscal years ended 1901-1930.

NOTE.—Juvenile immigrants are of course included in the total number of immigrants recorded elsewhere.

Fiscal Year.	Juvenile Immigrants.	Fiscal Year.	Juvenile Immigrants.
1901	977	1916	821
1902	1,540	1917	251
1903	1,979	1918	–
1904	2,212	1919	–
1905	2,814	1920	155
1906	3,258	1921	1,426
1907[1]	1,455	1922	1,211
1908	2,375	1923	1,184
1909	2,424	1924	2,080
1910	2,422	1925	2,000
1911	2,524	1926	1,862
1912	2,689	1927	1,741
1913	2,642	1928	2,070
1914	2,318	1929	3,036
1915	1,899	1930	4,281

[1] Nine months.

Oriental Immigration.—The immigration to Canada of the Asiatic races, able because of their low standard of living to underbid the white man in selling his labour, is fundamentally an economic rather than a racial problem, affecting most of all those parts of the country which are nearest to the Orient and the classes which feel their economic position threatened. A record of Oriental immigration since the commencement of the century is given in Table **15.**

15.—Record of Oriental Immigrants, fiscal years ended 1901-1930.

Fiscal Year.	Chinese.	Japanese.	East Indians.	Total.	Fiscal Year.	Chinese.	Japanese.	East Indians.	Total.
1901	2,544	6	–	2,550	1916	89	401	1	491
1902	3,587	–	–	3,587	1917	393	648	–	1,041
1903	5,329	–	–	5,329	1918	769	883	–	1,652
1904	4,847	–	–	4,847	1919	4,333	1,178	–	5,511
1905	77	354	45	476	1920	544	711	–	1,255
1906	168	1,922	387	2,477	1921	2,435	532	10	2,977
1907[1]	291	2,042	2,124	4,457	1922	1,746	471	13	2,230
1908	2,234	7,601	2,623	12,458	1923	711	369	21	1,101
1909	2,106	495	6	2,607	1924	674	448	40	1,162
1910	2,302	271	10	2,583	1925	–	501	46	547
1911	5,320	437	5	5,762	1926	–	421	62	483
1912	6,581	765	3	7,349	1927	–	475	60	535
1913	7,445	724	5	8,174	1928	3	478	56	537
1914	5,512	856	88	6,456	1929	–	445	52	497
1915	1,258	592	–	1,850	1930	–	194	58	252
					Totals	**61,298**	**24,220**	**5,715**	**91,233**

[1] Nine months.

Chinese Immigrants.—Oriental immigration to the Pacific Coast of North America appears to have commenced with the coming of Chinese immigrants about the time of the discovery of gold in California in 1849, and British Columbia appears to have received its first Chinese immigrants some time before 1870. The original occupations of these immigrants were as laundrymen and domestic servants. As early as 1872 Chinese were employed in the coal mines of the province and the Legislature was already considering the imposition of a poll tax on Chinese, the same proposition coming up later in the Dominion Parliament with the design of preventing the employment of Chinese labour in railway construction. A Royal Commission was appointed by the Dominion

Government in 1884 to investigate Chinese immigration, and this Commission recommended the imposition of a head tax of $10 upon Chinese entering Canada, together with registration and special legislation regulating Chinese domestic servants. This led to the passage of legislation in 1885 (48-49 Vict., c. 71), providing that thereafter Chinese of the labouring class should be required, as a condition of entering into Canada, to pay a head tax of $50 each. On Jan. 1, 1901 (63-64 Vict., c. 32) this tax was increased to $100, and on Jan. 1, 1904 (3 Edw. VII, c. 8), after another Royal Commission had reported on this matter, the head tax was further increased to $500. This tax was paid by all Chinese immigrants except consular officers, merchants and clergymen and their families, tourists, men of science, students and teachers. In spite of this restrictive legislation, the number of Chinese enumerated at the decennial censuses rose from 4,383 in 1881 to 17,312 in 1901, to 27,774 in 1911 and to 39,587 in 1921. Of this latter number, 37,163 were males and only 2,424 females. Some 60 p.c. of all the Chinese in Canada, *viz.*, 23,533, were residents of British Columbia.

16.—Record of Chinese Immigrants, fiscal years ended 1886-1930.

Fiscal Year.	Paying Tax.	Exempt from Tax.	Percentage of Total Arrivals Admitted Exempt from Tax.	Registrations for Leave.	Total Revenue.
	No.	No.	p.c.	No.	$
1886-91	4,590	222	4·61	7,041	239,664
1892	3,276	6	0·18	2,168	166,503
1893	2,244	14	0·62	1,277	113,491
1894	2,087	22	1·04	666	105,021
1895	1,440	22	1·50	473	72,475
1896	1,762	24	1·34	697	88,800
1897	2,447	24	0·97	768	123,119
1898	2,175	17	0·78	802	109,754
1899	4,385	17	0·39	859	220,310
1900	4,231	26	0·61	1,102	215,102
1901	2,518	26	1·02	1,204	178,704
1902	3,535	62	1·73	1,922	364,972
1903	5,245	84	1·58	2,044	526,744
1904	4,719	128	2·64	1,920	474,420
1905	8	69	89·61	2,080	6,080
1906	22	146	86·90	2,421	13,521
1907[1]	91	200	68·73	2,594	48,094
1908	1,482	752	33·67	3,535	746,535
1909	1,411	695	33·00	3,731	713,131
1910	1,614	688	29·89	4,002	813,003
1911	4,515	805	15·13	3,956	2,262,056
1912	6,083	498	7·57	4,322	3,049,722
1913	7,078	367	4·93	3,742	3,549,242
1914	5,274	238	4·32	3,450	2,644,593
1915	1,155	103	8·19	4,373	588,124
1916	20	69	77·53	4,064	19,389
1917	272	121	30·78	3,312	140,487
1918	650	119	15·47	2,907	336,757
1919	4,066	267	6·16	3,244	2,069,669
1920	363	181	33·27	5,529	538,479
1921	885	1,550	63·66	6,807	474,332
1922	1,459	287	16·44	7,532	743,032
1923	652	59	8·30	6,682	434,557
1924	625	51	7·54	5,661	334,039
1925	–	–	–	5,992	308,659
1926	–	–	–	3,947	25,969
1927	–	–	–	5,987	14,844
1928	2	1	33·33	5,087	25,679
1929	–	1	100·00	5,480	30,795
1930	–	–	–	5,682	30,799
Totals	**82,371**	**7,961**	8·81	**139,062**	**22,960,666**

[1] Nine months.

The Chinese Immigration Act of 1923 (13-14 Geo. V, c. 38), restricts the entry to or landing in Canada of persons of Chinese origin or descent, irrespective of allegiance or citizenship, other than government representatives, Chinese children born in Canada, merchants (defined by what regulations the Minister of Immigration and Colonization may prescribe) and students—the last two classes to possess passports issued by the Government of China and endorsed by a Canadian immigration officer. As a result no Chinese were admitted to the country as immigrants in the fiscal years ended 1925, 1926 and 1927; three are shown by the above table to have been admitted in 1928, one in 1929, but none in 1930.

Japanese Immigrants.—Japanese immigration to Canada commenced about 1896, and a total of some 12,000 came in between then and 1900, but at the census of 1901 the total number enumerated as domiciled in the Dominion was only 4,738; in 1911, 9,021; in 1921, 15,868, 15,006 of these latter being domiciled in British Columbia. The immigration of Japanese was especially active in the fiscal years 1906 to 1908, in which three years a total of 11,565 entered the country. In the latter year an agreement was made with the Japanese Government, under which the latter undertook to limit the number of passports issued to Japanese immigrants to Canada. The statistics of Table **15** show how Japanese immigration to Canada has been restricted.

East Indian Immigrants.—East Indian immigration to Canada, like Japanese, is shown by Table **15** to have been negligible down to 1907, when no fewer than 2,124 East Indian immigrants arrived. However, as a consequence of the operation of a Regulation under section 38 of the Immigration Act of 1910, East Indian immigration has since that date been comparatively small. A resolution of the Imperial War Conference of 1918 declared that " it is the inherent function of the Governments of the several communities of the British Commonwealth that each should enjoy complete control of the composition of its own population by means of restriction on immigration from any of the other communities ". However, it was recommended that East Indians already permanently domiciled in other British countries should be allowed to bring in their wives and minor children, a recommendation which was confirmed so far as Canada was concerned, by Order in Council of Mar. 26, 1919. However, in the ten fiscal years ended Mar. 31, 1921 to 1930, only 10, 13, 21, 40, 46, 62, 60, 56, 52 and 58 East Indian immigrants respectively were admitted, or 418 in the decade.

Expenditure on Immigration.—The sums expended by the Dominion Government on immigration in each of the fiscal years ended 1868 to 1930 inclusive, as stated in the Public Accounts issued annually by the Department of Finance, are shown in Table **17.**

17.—Expenditure on Immigration in the fiscal years ended 1868-1930.

(Compiled from Public Accounts.)

Year.	$	Year.	$	Year.	$	Year.	$
1868	36,050	1884	511,209	1900	434,563	1916	1,307,480
1869	26,952	1885	423,861	1901	444,730	1917	1,181,991
1870	55,966	1886	257,355	1902	494,842	1918	1,211,954
1871	54,004	1887	341,236	1903	642,914	1919	1,112,079
1872	109,954	1888	244,789	1904	744,788	1920	1,388,185
1873	265,718	1889	202,499	1905	972,357	1921	1,688,961
1874	291,297	1890	110,092	1906	842,668	1922	2,052,371
1875	278,777	1891	181,045	1907[1]	611,201	1923	1,987,745
1876	338,179	1892	177,605	1908	1,074,697	1924	2,417,374[2]
1877	309,353	1893	180,677	1909	979,326	1925	2,823,920[2]
1878	154,351	1894	202,235	1910	960,676	1926	2,328,931[2]
1879	186,403	1895	195,653	1911	1,079,130	1927	2,338,992
1880	161,213	1896	120,199	1912	1,365,000	1928	2,704,698
1881	214,251	1897	127,438	1913	1,427,112	1929	2,631,967
1882	215,339	1898	261,195	1914	1,893,298	1930	2,757,331
1883	373,958	1899	255,879	1915	1,658,182		
						Total	**52,424,195**

[1] Nine months.

[2] Includes expenditure on British Empire Exhibition:—1924, $649,882; 1925, $599,797; 1926, $70,661.

Recent Emigration from Canada.—An important factor tending to offset our immigration activities is a movement from Canada to the United States which has attained considerable proportions at certain periods. The quota system of immigration regulation, applied by the United States Government against immigrants generally but not against the Canadian born, had the effect of limiting immigration to the United States and thereby encouraging Canadians to enter the United States. No record of this movement had ever been kept by the Canadian Government, and, while its seriousness was recognized, its magnitude, as indicated by the United States returns, was questioned on the ground that these returns did not make allowance for Canadians returning to Canada after a more or less extended period of residence in the United States. The Canadian Department of Immigration and Colonization was convinced that a very considerable return movement was taking place, but until 1924 no attempt was made to ascertain the exact magnitude of that movement. In that year immigration officers were instructed to take note of Canadians returning to Canada from the United States after having left Canada to reside in that country. The results are tabulated in Table **18.**

Another circumstance which has in the past occasioned a considerable movement from Canada to the United States has no doubt been the practice of Europeans entering Canada, declaring themselves to be *bona fide* immigrants, but really with the intention of entering the United States as soon as the quota restrictions would permit them to do so. The tightening-up of the American regulations concerning persons entering the United States from Canada and the active co-operation of the Canadian Department of Immigration and Colonization in discouraging this traffic, seem to have effectually met this situation.

Table **18** shows the number of Canadians returned from the United States from April 1, 1924, to Mar. 31, 1930.

18.—Canadians Returned from the United States, fiscal years ended Mar. 31, 1925-30.

Fiscal Year ended Mar. 31—	Canadian-born Citizens.	British-born who had Acquired Canadian Domicile.	Naturalized Canadian Citizens.	Total.
1925	36,473	4,487	2,815	43,775
1926	40,246	4,102	2,873	47,221
1927	49,255	5,326	2,376	56,957
1928	35,137	3,280	1,470	39,887
1929	30,008	2,795	995	33,798
1930	26,959	2,030	841	29,830

Non-immigrants entering Canada.—The increase in the facilities for travel in recent years, especially in the use of the motor car and the improvement of roads and highways leading across the International Boundary, involves a great increase in the inspectional work of the Immigration Department. The activities of the Inspection Service are given in Table **19** for the latest fiscal years for which figures are available. This shows that the non-immigrants (chiefly tourists) admitted in the fiscal year ended Mar. 31, 1930, reached the huge number of 32,400,000, a remarkable figure when it is considered that the normal population of the Dominion is estimated to be about 10,000,000. These non-immigrant admissions have grown by 4,250,000 or 16 p.c. in the last two fiscal years.

19.—Immigrant and Non-Immigrant Admissions and Other Activities of the Immigration Inspection Service of Canada, by Divisions, fiscal years ended Mar. 31, 1928-30.

Item.	1928.	1929.	1930.
	No.	No.	No.
EASTERN DIVISION.			
Ocean Ports.			
Immigrants admitted	124,729	135,625	131,242
Rejections	296	313	279
Non-immigrants admitted	70,740	74,695	79,523
Investigations	1,057	1,267	4,974
Board of inquiry hearings	572	583	1,156
International Boundary.			
Immigrants admitted	14,011	18,549	19,805
Rejections	14,621	16,883	23,328
Non-immigrants admitted	24,209,510	26,475,649	29,767,807
Investigations	26,758	24,556	21,971
Board of inquiry hearings	[1]	1,333	7,761
WESTERN DIVISION.			
Immigrants admitted	8,422	9,273	8,052
Rejections	654	662	621
Non-immigrants admitted	743,680	875,448	1,048,395
Investigations	4,010	6,386	8,818
Board of inquiry hearings	844	1,014	2,049
PACIFIC DIVISION.			
Immigrants admitted	4,435	4,275	4,189
Rejections	686	612	809
Non-immigrants admitted	1,127,620	1,378,128	1,510,181
Investigations	[1]	262	1,350
Board of inquiry hearings	410	376	389
CANADA.			
Immigrants admitted	151,597	167,722	163,288
Rejections	16,257	18,470	25,037
Non-immigrants admitted	26,151,550	28,803,920	32,405,906
Investigations	31,825[1]	32,471	37,113
Board of inquiry hearings	1,817[1]	3,306	11,355

[1] Number reported incomplete.

In Table **20** will be found the number of trans-oceanic passengers classified as returning Canadians and other non-immigrants who entered Canada through ocean ports in the two latest fiscal years ended Mar. 31, 1929 and 1930. In the non-immigrants admitted at ocean ports, as shown in Table **19**, are included tourists and others who have come by water from the United States and Newfoundland, while in Table **20** are included only those who have come across the Atlantic or Pacific oceans. The grand total of such persons was 53,793 in 1930.

20.—Returning Canadians and Other Non-immigrants Entering Canada via Ocean Ports, by Class of Travel, fiscal years ended Mar. 31, 1929 and 1930.

NOTE.—Figures in this table cover transatlantic passengers only.

Description.	1929.			1930.		
	Saloon.	Cabin Class.	Third Class.	Saloon.	Cabin Class.	Third Class.
Canadian-born returning	1,955	5,965	6,669	2,629	5,870	7,257
British-born returning	345	3,315	13,844	513	2,900	15,118
British naturalized returning	253	829	1,642	294	797	1,796
Alien nationals returning	52	302	2,169	71	354	2,762
Non-immigrant tourist	1,292	4,365	4,016	1,427	3,861	4,532
" professional	–	4	8	3	32	33
" student	23	26	10	22	21	29
" theatrical	–	175	16	2	153	13
" in transit	1,452	1,146	505	1,512	1,282	510
Totals	**5,372**	**16,127**	**28,879**	**6,473**	**15,270**	**32,050**

Section 2.—Immigration Policy.[1]

The crest of the wave of immigration into Canada was in the years preceding the Great War, when the total immigration reached 402,432 in the fiscal year ended Mar. 31, 1913. This movement was largely due to the policy of giving free government lands to those who would undertake to live upon them and perform certain residence and development duties, and to the opportunities for all classes of labour in railroad and other construction work. The homestead entries for the period of the fiscal years 1901 to 1914, inclusive, numbered 434,862, and represented the enormous area of more than 70,000,000 acres of fertile land in the provinces of Manitoba, Saskatchewan, Alberta and certain portions of British Columbia, granted free to settlers as an inducement toward the development of the country.

The war interrupted the flow of immigration, and with the return of peace new conditions called for new policies. First and most pressing of these was the problem of re-absorbing into civil life the hundreds of thousands of returning soldiers. The realization that Canada had been somewhat optimistic in its railway undertakings had also been borne in upon the public, and immigration policies had to be so shaped as to avoid the necessity of further railway construction. While the ordinary channels of employment were filled with returning soldiers, and free government lands were located at such distances from railways that settlement upon them could not be generally encouraged, the Department of Immigration and Colonization found it necessary to restrict its activities almost exclusively to those who were in a position to buy land, or were prepared to take farm employment, and to household workers. This strictly selective policy, combined with certain restrictive regulations which were a natural aftermath of the war, and other conditions such as the high cost of transportation and the depreciation of European currencies, resulted in a relatively small movement of immigrants to Canada.

During 1923, it became increasingly evident that popular opinion in Canada favoured a resumption of immigration activities on a considerable scale. The Government announced its intention of encouraging the migration of the largest possible number of those classes of settlers which Canada could absorb. This elicited favourable comment in the British press, which welcomed a resumption of Canadian immigration activities. While there were would-be immigrants into Canada who were not suited for the Dominion owing to physical, moral or industrial unfitness or because they belonged to races that could not be assimilated without social or economic loss to Canada, there were in Great Britain and Continental Europe tens of thousands of workers (not agriculturists) who, it was believed, would be an asset to Canada if steady employment could be found for them.

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[1] Prepared by R. J. C. Stead, Director of Publicity, Department of Immigration and Colonization.

Recognition of the fact that there were many families in Great Britain and Ireland who would make good settlers in Canada but were hampered by the high cost of transportation, resulted in an arrangement with the British Government, under which assistance in bearing the transportation expenses of selected immigrants, by means of reduced passage in the case of adults and free passage in the case of children under 17, was provided. The agreement provided assistance to four classes of British immigrants, *viz.:* (a) married agriculturists and their families; (b) single farm labourers; (c) houseworkers; (d) juvenile immigrants. The assistance to juvenile immigrants (class " d ") was limited to those between 14 and 17 years of age. All assistance was for third class ocean and colonist rail transportation, repayable without interest. One feature of the Empire Settlement Agreement provided for nomination in Canada, so that any British subject residing in Canada might nominate a relative, friend or acquaintance who on arrival would be engaged in farming or in housework. Provision was also made for nomination by description where British help was wanted and the nominator was not acquainted with a suitable migrant.

The first assisted passage agreement was made in April, 1923. Others followed in 1924 and 1925, continuing the principle of loan to the adult, where necessary, of the entire cost of transportation. On Jan. 1, 1926, a new passage agreement came into effect, under which the cost to the adult migrant was reduced to a point where the majority could and did pay the rate. This Empire Settlement Agreement provided ocean passage, third class, from any port in the United Kingdom to Halifax, Saint John or Quebec for £3. The Empire Settlement rate to Toronto was £4:10; Winnipeg, £5:10; Regina, Moose Jaw or Saskatoon, £6; Calgary or Edmonton, £6:10, and Vancouver, £9. In the autumn of 1926 the £3 ocean rate was reduced to £2, with a corresponding reduction of £1 in the rate to the other mentioned destinations. The balance of the fare was made up of contributions and rebates by the British Government, the Canadian Government and the steamship companies. Houseworkers were required to provide a minimum of £2 and might be loaned the balance where necessary. The adults of agricultural families might be given loans where necessary, while children under 19 belonging to agricultural families received free passage.

Provision was also made by arrangement with the British Government for assisting 3,000 selected British families to locate on farms in Canada, in addition to the passage assistance already outlined. This was made possible by a loan of £300 per family advanced by the British Government, and repayable over a period of 25 years with interest at 5 p.c. per annum. The families were personally selected by the Canadian authorities and approved by the British authorities. Settlement was made under the direction of the Land Settlement Branch of the Department of Immigration and Colonization on farms owned by the Government. Payment of the purchase price of the farm was extended over 25 years with interest at 5 p.c. per annum.

During 1927 an agreement was completed between the British Government, the Canadian Government, and the Government of New Brunswick, providing for the placement of 500 British settlers and their families on improved farms in New Brunswick during the period from Mar. 1, 1928 to Mar. 31, 1934. The plan follows the general scheme of the 3,000 British families settlement plan except that in this case the Canadian co-operation is being given by the province and the Dominion working together, instead of exclusively by the Dominion Government. The Dominion Government, through its Department of Immigration and Colonization, recruits and selects the settlers in the British Isles and, co-operating with the Government of New Brunswick, places the settlers in that province and extends settlement service through its Land Settlement Branch. The Government of New Brunswick acquires the necessary farms and sells them to the settler on terms calling for 25 annual payments with interest amortized at the rate of 5 p.c. per annum. The British Government provides funds for acquiring stock and equipment, and for seed, feed and initial payments on farms, which sums are payable on the same terms as the price of the land.

As a result of negotiations carried on during the latter part of 1928, a general third class ocean passage rate of £10 was established for British migrants coming to Canada. This became effective Jan. 18, 1929, replacing the previous rate of £18:15. The £2 ocean rate is continued for families proceeding for settlement on the land under an approved settlement scheme, with free passage for all members of such families under 19 years of age. Boys between 14 and 18 years of age accepted under any government scheme for juvenile farm workers or proceeding under the auspices of a recognized voluntary society, and girls between 14 and 17 years of age proceeding to suitable homes under the same arrangements, receive free transportation.

Agreements for the settlement of British boys on farms in Canada have been entered into between the Canadian Government, the British Government and the Governments of a number of the provinces. In British Columbia, Saskatchewan, Manitoba, Ontario, Quebec, New Brunswick and Nova Scotia, reception centres have been established for the reception of British boys, who are then distributed to suitable farm homes in the province, where they can gain experience in Canadian farming methods, at the same time saving up some capital.

The Governments of Manitoba, Ontario, New Brunswick and Nova Scotia are co-operating in a scheme whereby a boy, settled under the above arrangement, who has reached the age of 21 years, has established his proficiency in farm work, and has saved up approximately $500, becomes eligible for a loan amounting to $2,500 for the purchase of a farm of his own. This loan is repayable over a period of 20 years with interest at 5 p.c.

Medical inspection prior to sailing was introduced in 1928 with a two-fold object: (1) to prevent hardship to the migrant by putting the inspection back as near as possible to his place of origin, thus doing away with the migrant selling his home and making a long and expensive journey to Canada with the chance of being turned back at the port of entry in Canada; (2) to protect Canada against having to deal with numerous mentally or physically defective immigrants who would require hospital or other care at Canadian ocean ports.

On the continent of Europe medical inspection is conducted at ports of sailing. In the British Isles greater facilities are provided by the use not only of Canadian doctors, but also of several hundred British doctors known as roster doctors. In the British Isles the intending migrant may go to a doctor in his own district at any time within four months of his sailing. All medical inspection is free of charge to the migrant.

In order to assure to Canadians first opportunities of employment, an Order in Council was passed on Aug. 7, 1929, prohibiting the landing in Canada of any immigrant coming under contract or agreement, express or implied, to perform labour or service of any kind in Canada, but this regulation does not apply to farmers, farm labourers or houseworkers. Under the Order, the Minister of Immigration and Colonization may admit any contract labourer if satisfied that his labour or service is required in Canada. In August, 1930, having regard to the world depression in business and industry, immigration from Europe was suspended except in the case of: (a) practical farmers with sufficient capital to immediately establish and maintain themselves upon farms in Canada, and (b) wives and children under 18 years of age of family heads already established in this country. No change was made in the regulations applicable to immigrants from the British Isles or the United States, but the Department of Immigration and Colonization discontinued solicitation of immigrants generally, and requires that those applying for admission, unless farmers with capital, shall have sufficient means to maintain themselves until employment is secured.

CHAPTER VII.—SURVEY OF PRODUCTION.

The Definition of "Production".—The term "production" is used here in its popular acceptation, *i.e.*, as including such processes as the growing of crops, extraction of minerals, capture of fish, conversion of water power into electrical current, manufacturing, etc.—in economic phrase, the creation of "form utilities". It does not include various activities which are no less "productive" in a broad and strictly economic sense, such as (a) transportation, refrigeration, merchandising, etc., which add to commodities already worked up into form the further utilities of "place", "time" and "possession", and (b) personal and professional services, such as those of the teacher and the doctor, which are not concerned with commodities at all, but are nevertheless essential to any civilized society—representing, in economic language, the creation of "service utilities".

As showing the importance of these latter activities, it may be pointed out, for comparison with the figures in the accompanying tables, that steam railway gross earnings in 1928, the latest year for which complete statistics of production are available, amounted to $563,732,259, street railway gross earnings to $55,632,761, and telephone and telegraph earnings to $69,897,887, all of which, from a broad point of view, may be considered as "production". It may be further noted that of 3,173,169 persons ten years of age and over employed in 1921 in gainful occupations in Canada, 247,410 were engaged in transportation, 310,439 in trade, 61,301 in finance, 214,452 in domestic and personal service, 181,391 in professional service, 94,541 in public administration and 7,807 in recreational service, a total of 1,117,341 or 35 p.c. of the whole. In other words, only about 65 p.c. of usefully and gainfully employed persons are engaged in "production", according to the definition adopted in the present statement. Since the remaining 35 p.c. are probably as "productive", in the broader sense of the term, as the 65 p.c., we may therefore add seven-thirteenths to the total to obtain a rough estimate of the value in dollars of the total productive activity of the Canadian people, according to the economist's definition of production, which approximates to the concept of national income. Since the net value of the commodities produced in Canada, according to the general survey of production, which follows as Table 1, and the figures published for earlier years in the 1929 and 1930 Year Books totalled $2,939,000,000 in 1922, $3,051,000,000 in 1923, $3,018,000,000 in 1924, $3,365,000,000 in 1925, $3,640,000,000 in 1926, $3,902,000,000 in 1927, and $4,123,000,000 in 1928, the grand total money value of the productive activities of the gainfully occupied population of Canada may be estimated at $4,520,000,000 in 1922, $4,696,000,000 in 1923, $4,643,000,000 in 1924, $5,178,000,000 in 1925, $5,600,000,000 in 1926, $6,010,000,000 in 1927 and $6,342,000,000 in 1928.

The Relation of "Production" to National Income.—The above figures of total production are necessarily larger than the national income, since a considerable deduction must be made therefrom for the purpose of keeping the national capital engaged in production unimpaired, before the remainder can be placed at the disposal of individuals. Machinery that is either obsolete or obsolescent must be replaced, buildings and other equipment kept in a good state of repair, etc. In other words, full and adequate provision must be made out of the year's products for the annual depreciation of the equipment used in their production before any part of that product can be allocated to individuals. On this basis, probably not more than 90 p.c. of the annual value of the productive activities of the Dominion is annually available for consumption as the national income. The national income of the people of Canada in 1928 was thus in the neighbourhood of $5,800,000,000. (See also entry " National Income " in the index.)

Difficulties in Differentiating between the Branches of Production.—There is an increasing demand for a survey of production that will differentiate as between the more important branches and at the same time give a purview of the whole which will be free from overlapping. This is somewhat difficult to present with clearness, in view of the varying definitions that attach to industrial groups from different points of view. For example, brick, tile and cement are frequently included in " mineral production " as being the first finished products of commercial value resulting from the productive process; frequently, however, they are regarded as " manufactures " in view of the nature of the productive process—either allocation being correct according to the point of view. The tables show the total values of all commodities produced in Canada in the latest years; the values are given as in the producers' hands.

"Gross" and "Net" Production.—The values of products are shown under two headings, namely, "gross" and "net". "Gross" production shows the total value of all the individual commodities produced under a particular heading. "Net" production represents an attempt to eliminate the value of materials consumed in the productive process. For purposes of ordinary economic discussion, the net figures should be used in preference to the gross, because of the large amount of duplication which the latter includes on account of the necessity of making the individual items self-contained.

Interpretation of Items.—The primary industries of agriculture, fishing, forestry, mining, etc., are separated in this statement from the secondary or manufacturing processes. The close association between the two and the overlappings that are apt to occur have already been pointed out. As further explaining the procedure that has been followed in drawing up the tables, the following notes are appended:—

Agriculture.—Dairy factories are included under this heading; farm dairy products (gross) include the milk consumed whole and sold to dairy factories, and the butter, etc. made on the farm.

Forestry.—Forestry production is understood to consist of the operations in the woods as well as those of sawmills and pulp-mills, the latter being limited to the making of first products such as lumber, lath, shingles, pulp and cooperage stock.

Fur Production.—The item of fur production is limited to wild-life production. To obtain a total of the peltries produced in Canada, it would be necessary to add to the wild-life output the production of pelts on fur farms.

Mineral Production.—Under mineral production all items are included that might be allocated to "manufactures". Considerable overlapping exists as between "mineral production" on the one hand and "manufactures" on the other. The Bureau presents the detailed statistics of these groups (the chief of which are smelters, brick, cement, lime, etc.) in its reports on mineral production, since their product is the first to which a commercial value is ordinarily assigned.

Total Manufactures.—The figure given for this heading is a comprehensive one including the several items listed with the extractive industries above, though also frequently regarded as " manufactures ", *viz.*, dairy factories, fish-canning and curing, sawmills, pulp-mills, shipbuilding and certain mineral industries. This duplication is eliminated from the grand totals as well as from "manufactures, *n.e.s.*", listed in Table **5**.

Manufactures, n.e.s.—The figures given for manufactures, *n.e.s.*, are exclusive of the value of the products of all manufacturing processes closely associated with the extractive industries that are frequently included under this heading; hence it is obvious that the grand total is equivalent to an amount obtained by adding the values for manufactures, *n.e.s.*, and for the other eight divisions.

Section 1.—The Leading Branches of Production in 1928.

The net value of Canadian production was greater in 1928 than in any other year on record, being 6·8 p.c. more than in 1927 and about 14 p.c. more than in 1920. The marked increase in 1928 is accounted for by the active industrial conditions evident in many lines throughout the year. The net value of commodities produced in Canada during 1928 was $4,122,500,000, compared with $3,901,500,000 in 1927 and $3,640,000,000 in 1926.

The Main Branches of Production in 1928.—If "net" production is taken as signifying the value left in the producers' hands after the elimination of the value of the materials consumed in the production process, all of the branches of production except agriculture and trapping showed increases in the net production of 1928 as compared with 1927, while the decline in trapping was insignificant. A substantial gain was recorded in construction, where net output in 1928 was $319,000,000, an increase of $35,900,000 or 13 p.c. Manufacturing, however, took first place in absolute increase, as the net output of the manufacturing industries in 1928 was $1,819,000,000 as against $1,636,000,000 in 1927, an increase of $183,000,000 or 11 p.c. Mineral production was valued at $275,000,000 as compared with $247,000,000 in 1927, an increase of $28,000,000 or 11 p.c. The decline in agricultural production was nearly $22,000,000 or 1·4 p.c., the total for 1928 being $1,501,000,000. An important increase took place in electric power, where the gain was 8 p.c. A slight decrease was shown in trapping, while in the custom and repair industries, estimated for purposes of comparison, an appreciable increase was indicated.

Relative Importance of the Several Branches of Production.—In view of the increase in manufacturing production in 1928, the lead of manufactures over agriculture, which was 7·5 p.c. in 1927, was increased to 21 p.c. in 1928. Agricultural production in 1928 represented 36·4 p.c. of the net output of all branches, while the value added by the manufacturing processes in 1928 was 44·1 p.c. of the total net production. However, a number of the industries listed under manufactures are also included in the several extractive industries with which they are associated. When this duplication is eliminated, the output of the manufacturing industries not elsewhere included was 34·9 p.c. of the total net production of 1928. Forestry held third place with a percentage of 7·9 p.c. Construction was in fourth place, with a percentage of 7·7 p.c., followed by mining, with a percentage of 6·7 p.c.; in 1927 mining represented 6·3 p.c. and forestry 8·0 p.c. The electric power group had an output of 2·7 p.c. of the total net production. Repair work, fisheries and trapping followed, with percentages in 1928 of 2·0, 1·3 and 0·4, respectively.

A summary of gross and net production is given by industries for the years from 1924 to 1928 in Table **1**; a detailed itemized statement of the net value of production in 1926, 1927 and 1928 is given in Table **2.**

1.—Gross and Net Values of Production in Canada, by Industries, 1924-1928.

GROSS VALUE OF PRODUCTION.

Division of Industry.	1924.	1925.	1926.	1927.	1928.
	$	$	$	$	$
Agriculture[1]	1,530,481,735	1,832,537,811	1,806,075,911	1,917,999,084	1,905,311,580
Forestry	433,816,948	434,745,813	454,773,119	453,694,831	473,559,767
Fisheries	56,014,651	61,896,067	73,052,985	63,876,559	70,668,167
Trapping	14,785,634	14,778,173	17,609,036	17,640,781	16,603,827
Mining	230,016,492	253,912,742	279,674,780	279,873,382	308,250,712
Electric power	95,169,768	102,587,882	115,467,940	134,818,567	143,692,455
Totals, Primary Production	2,360,285,228	2,700,458,488	2,746,653,771	2,867,903,204	2,918,086,508
Construction	287,687,809	310,215,481	385,913,533	435,359,000	488,378,000
Custom and repair[2]	90,837,351	96,280,000	107,367,900	116,082,000	129,085,000
Manufactures[3]	2,695,053,582	2,948,545,315	3,247,803,438	3,425,498,540	3,769,850,364
Totals, Secondary Production	3,073,578,742	3,355,040,796	3,741,084,871	3,976,939,540	4,387,313,364
Grand Totals	**4,930,417,387**	**5,452,366,938**	**5,837,369,237**	**6,167,384,194**	**6,574,619,365**

NET VALUE OF PRODUCTION.

Division of Industry.	1924.	1925.	1926.	1927.	1928.	P.c. of Net Value of Production, 1928.
	$	$	$	$	$	p.c.
Agriculture	1,140,895,500	1,382,598,424	1,400,244,658	1,522,948,870	1,501,271,463	36·42
Forestry	311,265,847	313,412,842	312,844,584	311,915,163	323,654,008	7·85
Fisheries	44,534,235	47,942,131	56,360,633	49,497,038	55,050,973	1·34
Trapping	14,785,634	14,778,173	17,609,036	17,640,781	16,603,827	0·40
Mining	209,583,406	226,583,333	240,437,123	247,356,695	274,989,487	6·67
Electric power	74,616,863	79,341,584	88,933,733	104,033,297	112,326,819	2·72
Totals, Primary Production	1,795,681,485	2,064,656,487	2,116,429,767	2,253,391,844	2,283,896,577	55·40
Construction	187,114,415	202,102,890	251,088,323	283,263,000	319,164,000	7·74
Custom and repair[2]	58,053,266	61,534,000	68,743,000	74,174,000	82,482,000	2·00
Manufactures[3]	1,256,643,901	1,360,879,907	1,519,179,246[5]	1,635,923,936	1,819,046,025	44·12[4]
Totals, Secondary Production	1,501,811,582	1,624,516,797	1,839,010,569	1,993,360,936	2,220,692,025	53·86[4]
Grand Totals	**3,018,182,081**	**3,364,824,598**	**3,640,356,606**	**3,901,505,298**	**4,122,509,882**	**100·0**

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[1] The gross value of agricultural production here exceeds that given on page 215 in Chapter VIII of this edition of the Year Book, by the amount paid to patrons of dairy factories for milk and cream.

[2] Statistics of custom and repair industries were not collected after 1922, and the totals for that year were repeated in 1923 and 1924. The totals for 1925 to 1928 were estimated according to the percentage change in the data for manufacturing.

[3] The item "manufactures" includes dairy factories, sawmills, pulp-mills, fish-canning and curing, shipbuilding, electric power and certain mineral industries also included under other headings. This duplication, amounting in 1924 to a gross of $503,446,583 and a net of $279,310,986, in 1925 to a gross of $603,132,346 and a net of $324,348,686, in 1926 to a gross of $650,369,405 and a net of $315,083,730, in 1927 to a gross of $677,458,550 and a net of $345,247,482, and in 1928 to a gross of $730,780,507 and a net of $382,078,720 is eliminated from the grand totals.

[4] The proportion of manufactures, freed from all duplication (as explained in note 3) to the grand total of net production was 34·86 p.c., and under like conditions the proportion of all secondary production to the grand total of net production was 44·60 p.c.

[5] This figure exceeds by $26,534,207 that given in the Manufactures chapter as the net production of manufactures in 1926. This difference is due to certain duplications in the central electric station industry not having been eliminated when the 1926 figures were first compiled.

2.—Detailed Itemized Statement of the Net Values of Production in Canada during 1926, 1927 and 1928.

Classification.	Net Production.		
	1926.	1927.	1928.
	$	$	$
Agriculture—Field Husbandry—			
Field crops	1,039,221,000	1,115,043,000	1,053,817,000
Fruits and vegetables	42,706,000	45,707,000	48,400,463
Maple products	4,896,000	4,935,000	5,583,000
Tobacco	7,380,000	9,112,000	6,834,000
Grass and clover seed	5,097,000	3,841,000	2,957,000
Honey	1,956,000	2,937,000	3,015,000
Flax fibre	208,000	321,000	509,000
Totals, Field Husbandry	1,101,464,000	1,181,896,000	1,121,115,463
Animal Husbandry—			
Farm Animals	178,383,000	183,927,000	197,880,000
Wool	4,140,000	4,108,000	5,099,000
Dairy products—			
Dairy butter	28,253,000	30,435,121	29,103,000
Creamery butter	61,753,000	65,709,986	64,703,000
Home made cheese	80,000	70,654	82,000
Factory cheese	28,808,000	25,522,148	30,494,000
Miscellaneous factory products	17,767,000	18,879,335	20,581,000
Milk consumed fresh or otherwise used	136,558,658[1]	149,631,626[1]	148,082,000[1]
Poultry and eggs	83,569,000	97,937,000	106,653,000
Fur farming—			
Pelts	1,225,000	2,154,000	2,346,000
Animals	2,295,000	2,644,000	3,760,000
Totals, Animal Husbandry	298,788,658[2]	341,050,870[2]	380,156,000[2]
Totals, Agricultural Production	1,400,244,658	1,522,948,870	1,501,271,463
Forestry—			
Logs and bolts	75,791,932	74,270,067	76,431,481
Pulpwood	68,100,303	70,284,895	74,848,077
Railway ties	6,792,087	6,242,865	5,871,724
All other forest products	53,752,006	54,833,900	55,799,517
Totals, Forestry Operations	204,436,328	205,631,727	212,950,799
Sawmill products	56,261,176	56,181,854	58,972,953
Pulp-mill products	52,147,080	50,101,582	51,730,256
Totals, Milling Operations	108,408,256	106,283,436	110,703,209
Totals, Forestry Production	312,844,584	311,915,163	323,654,008
Fisheries—			
Fish sold fresh by fishermen	18,634,687	18,138,789	18,131,309
Sales to canning and curing establishments	16,692,352	14,379,521	15,617,194
Fish domestically cured	1,535,182	273,640	651,932
Fish-canning and curing establishments (value added)	19,498,412	16,705,088	20,650,538
Totals, Fisheries Production	56,360,633	49,497,038	55,050,973
Trapping—			
Fur Production (wild life)	17,609,036	17,640,781	16,603,827
Mineral Production—			
Smelting	72,853,566	47,210,995	61,081,477
Other metallics	42,384,015	66,350,035	70,930,977
Fuels	68,743,933	71,426,516	74,413,160
Salt	1,480,149	1,614,667	1,495,971
Other non-metallics	15,016,062	15,945,063	17,330,721
Clay products	10,357,323	11,173,189	12,381,718
Cement	13,013,283	14,391,937	16,739,163
Lime	3,781,484	3,923,388	4,534,568
Other structural materials	12,807,308	15,320,905	16,081,732
Totals, Mineral Production	240,437,123	247,356,695	274,989,487
Electric Light and Power[3]	88,933,733	104,033,297	112,326,819
Totals, Primary Production	2,116,429,767	2,253,391,844	2,283,896,577

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[1] Three per cent for wastage was deducted from value of milk consumed fresh.

[2] Cost of feed is deducted from the gross for animal husbandry.

[3] This amount is exclusive of duplication involved in purchases of power by reporting companies.

2.—Detailed Itemized Statement of the Net Value of Production in Canada during 1926, 1927 and 1928—concluded.

Classification.	Net Production.		
	1926.	1927.	1928.
	$	$	$
Construction—			
General construction	242,271,000	272,319,000	306,821,000
Shipbuilding	8,817,323	10,944,000	12,343,000
Totals, Construction	251,088,323	283,263,000	319,164,000
Custom and repair	68,743,000	74,174,000	82,482,000
Manufactures—			
Vegetable products	244,004,302	283,374,975	317,073,457
Animal products	122,920,658	132,260,556	133,697,496
Textiles	163,502,261	183,137,300	191,671,848
Wood and paper	339,062,685	357,786,924	389,389,952
Iron and steel	247,168,476	264,819,160	300,014,925
Non-ferrous metals	92,888,719	112,757,295	139,220,908
Non-metallic minerals	91,863,604	89,433,536	112,398,268
Chemicals	62,464,944	63,854,084	72,812,503
Miscellaneous including central electric stations	155,303,597	148,500,106	162,766,668
Totals, Manufactures[4]	1,519,179,246[5]	1,635,923,936	1,819,046,025
Totals, Secondary Production	1,839,010,569	1,993,360,936	2,220,692,025
Grand Totals	**3,649,355,606**	**3,901,505,298**	**4,122,509,882**

[4] The item "total manufactures" includes the following industries which are also shown elsewhere, the amount of the duplication being deducted from the grand totals.

Dairy factories	31,950,139	33,176,852	34,783,938
Sawmills and pulp-mills	108,408,256	106,283,436	110,703,209
Fish-canning and curing	14,156,635	12,719,763	15,688,965
Shipbuilding	8,817,323	10,944,127	12,342,892
Mineral industries	62,817,544	78,090,007	96,232,897
Electric power	88,933,733	104,033,297	112,326,819
Totals	315,083,730	345,247,482	382,078,720
Totals, Manufactures (with duplications eliminated)	1,204,095,516	1,290,676,454	1,436,967,305

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[5] This amount is greater by $26,534,207 than the total elsewhere published as the net production of manufactures in 1926. This difference is due to certain duplications in the central electric station industry not having been eliminated when the 1926 figures were first compiled.

Section 2.—The Provincial Distribution of Production.

During the post-war period of recovery, since 1921, the trend of net production has exhibited considerable variation in the different provinces. In Prince Edward Island, the lowest point was reached in 1922, followed by substantial recovery from 1924 to 1926, with moderate declines in 1927 and 1928. The depression in Nova Scotia was maintained from 1920 to 1925 but production in 1926, which was fairly well maintained in 1927, showed a marked reversal of the trend in preceding years. The increase in net production of about 21 p.c. in 1928 was significant when viewed in relation to this previous advance. The trend in New Brunswick showed increases in 1925 and 1926, with a slight recession in 1927 and a further decrease in 1928 offsetting most of the gain since 1924.

In Quebec the decline in 1921 was very severe. During the subsequent period the chief features were a substantial gain in 1923, a minor recession in 1924 and a marked recovery in 1925, continued in 1926, 1927 and 1928. The decline of 1921 was also very severe in Ontario, but since that year continuous increases have been recorded. The increase in 1924 over the preceding year was very slight, but aside from this partial interruption, a steady rate of increase was maintained from 1922 to 1928.

The special feature in the case of Manitoba was the marked increase in 1924 over 1923. The increase of 1926 was followed by a decline in 1927 but the 1928 figure showed an increase of nearly 18 p.c. While a decline was shown in Saskatchewan in 1921, the total of 1920 was exceeded in 1922 and again in 1925 since when, except for a temporary decline in 1926, the gross value of production has shown very satisfactory increases. High points in the net value of production in Alberta were attained in 1923 and 1927 but in 1928 there was a decline of about 10 p.c. In British Columbia, steady increases were shown during the recovery from 1922 to 1926, the upward trend being fairly continuous. In 1927 there was a moderate increase and the 1928 figures established a new high.

The values of gross and net production are given by provinces for the years 1924 to 1928 in Table **3**. It will be seen that in the four years the total net production of the Dominion increased from $3,018,182,081 to $4,122,509,882, or by $1,104,327,801, which is 36·6 p.c.

3.—Gross and Net Value of Production in Canada, by Provinces, 1924-1928.

GROSS VALUE OF PRODUCTION.

Province.	1924.	1925.	1926.	1927.	1928.
	$	$	$	$	$
P. E. Island	24,378,343	30,750,962	32,028,754	25,590,162	28,925,960
Nova Scotia	145,356,067	144,310,705	170,611,631	160,539,287	204,211,630
New Brunswick	127,429,891	142,364,505	141,860,549	135,971,623	132,957,699
Quebec	1,207,316,656	1,325,485,813	1,436,435,438	1,513,389,889	1,612,448,740
Ontario	2,147,755,210	2,274,066,092	2,472,666,468	2,619,513,041	2,813,092,274
Manitoba	279,328,851	296,263,418	311,220,571	311,515,657	355,009,130
Saskatchewan	330,903,24	473,558,251	435,783,731	483,638,832	502,850,308
Alberta	298,589,566	360,559,745	383,207,517	462,347,821	439,513,402
British Columbia	366,499,403	401,006,882	447,965,982	436,638,318	480,127,529
Yukon	2,860,160	3,970,565	5,588,596	5,239,564	5,482,693
Grand Totals	**4,930,417,387**	**5,452,366,938**	**5,837,369,237**	**6,167,384,194**	**6,574,619,365**

NET VALUE OF PRODUCTION.

Province.	1924.	1925.	1926.	1927.	1928.	Percentage of Total Net Value in 1928.
	$	$	$	$	$	p.c.
P.E. Island	18,138,381	23,428,069	26,325,625	23,734,082	23,128,829	0·56
Nova Scotia	96,071,433	95,814,984	124,218,480	119,540,211	144,272,367	3·50
New Brunswick	78,298,070	87,872,881	90,964,915	86,871,419	85,364,983	2·07
Quebec	729,992,866	803,412,257	869,594,363	920,270,084	979,666,796	23·76
Ontario	1,217,764,312	1,273,062,275	1,371,688,666	1,469,994,588	1,572,835,443	38·15
Manitoba	190,022,463	187,877,971	207,100,745	200,050,712	235,182,568	5·71
Saskatchewan	237,254,471	366,359,945	357,046,765	406,098,995	413,825,134	10·04
Alberta	210,972,370	261,465,029	298,026,980	378,578,571	341,413,575	8·28
British Columbia	236,816,575	261,575,060	289,801,471	291,140,286	321,354,242	7·80
Yukon	2,851,140	3,956,127	5,588,596	5,226,350	5,465,945	0·13
Grand Totals	**3,018,182,081**	**3,384,824,598**	**3,640,356,606**	**3,901,505,298**	**4,122,509,882**	**100·00**

Relative Production in Different Provinces, 1928.—It will be seen from Table **3** that Ontario and Quebec held first and second places among the provinces in the net value of production in 1928, and that the percentage of production of each of these provinces to the total was higher than in 1927. The net output in the two provinces during 1928 represented 38·2 p.c. and 23·8 p.c. of the total respectively, compared with 37·7 p.c. and 23·6 p.c. in 1927. Saskatchewan held third place with a percentage of 10·0 in 1928, compared with 10·4 in 1927. Alberta occupied fourth place in 1928 with a percentage of 8·3 while British Columbia was fifth with a percentage of 7·8 and Manitoba sixth with a percentage of 5·7. Nova Scotia, New Brunswick and Prince Edward Island were next in importance in the order named, with percentages of 3·5, 2·1 and 0·6, respectively. The Yukon Territory contributed 0·1 p.c. to the total.

Section 3.—Leading Branches of Production in each Province, 1928.

The Maritime Provinces.—Production in *Nova Scotia* in 1928 was principally in the manufacturing, agricultural and mining industries, which were accountable for 28·3 p.c., 25·4 p.c. and 21·2 p.c. respectively of the net output of the province; the contribution of manufactures, aside from processes carried on in connection with the extractive industries, was 28·3 p.c. In *New Brunswick* agriculture took first place as a producer of new wealth, the proportion being 35·0 p.c., while forestry furnished an output of 26·2 p.c. Manufacturing occupied third place with an output of 20·0 p.c., followed by fisheries with 5·9 p.c. and construction with 6·0 p.c. Agriculture, including fur farming contributed 83·8 p.c. of the net output of *Prince Edward Island.* Increases in seven branches of production in the Maritime Provinces, counterbalanced decreases in forestry and trapping. The net result was that the value of production was 9·7 p.c. greater in 1928 than in the preceding year, while Nova Scotia alone showed an increase of nearly 21 p.c.

Quebec.—The product derived from manufactures in Quebec was greater than that from any other industry. Manufactures, aside from the output of establishments associated with the extractive industries, contributed 45·8 p.c., while the net output of the entire manufacturing division, referred to the same base, was 57·4 p.c. Agriculture, with 23·3 p.c., forestry with 10·8 p.c. and construction with 10·3 p.c. occupied second, third and fourth places. With the exception of agriculture, increases were shown in each of the branches of production in 1928 as compared with 1927. The increases over 1927 in manufactures and in the generation of electrical energy reached 9 p.c. and 7 p.c., respectively.

Ontario.—The net production from the manufactures of Ontario, when stripped of all duplication, was $775,000,000 or 49·3 p.c. of the total, compared with $393,000,000 or 25·0 p.c. from agriculture. Construction held third place with 7·9 p.c. of the total, and mining followed with 6·3 p.c. The forestry output was 5·5 p.c. of the net production of the province. Increases over 1927 were achieved in all the main divisions of production except construction. The net output of manufactures increased by $97,000,000, and agriculture showed a gain of $2,698,000. Except in forestry and fisheries, Ontario led the other provinces and divisions in the productivity of the main branches of industry. The province yielded precedence in forestry operations to Quebec alone, while British Columbia, Nova Scotia and New Brunswick obtained a greater income from fisheries. About 50 p.c. of the net manufacturing output of the country was contributed by Ontario, and 26 p.c. of the agricultural income was derived from the same source.

The Prairie Provinces.—About 88·2 p.c. of the output of *Saskatchewan* was obtained from farming, which also largely predominated as a producer of new wealth in *Manitoba* and *Alberta,* the proportions being 57·6 p.c. and 72·7 p.c., respectively. Mineral production, chiefly coal mining, held second place in

Alberta, with an output of 9·5 p.c. of the provincial total. Manufacturing was second in importance in Manitoba, representing 24·9 p.c. of the provincial total. Larger grain yields accounted for the increase in the net production of Manitoba, while agricultural income showed a decline in Saskatchewan and Alberta. Despite the decline in Alberta, the net value of production in the three Prairie Provinces showed an increase over 1927 of $5,693,000 or 0·5 p.c.

British Columbia.—The net production from manufacturing in British Columbia during 1928 was about $133,700,000, but over 58 p.c. of this amount was derived from manufacturing processes closely associated with the primary industries, especially logging and fishing. The remainder, $55,800,000, was 16·9 p.c. of the net output of the province. Aside from manufacturing, forestry constituted the chief source of new wealth—about 26 p.c. of the total output of the province was contributed by the forest. Mining and farming followed in order, with percentages of 20·1 and 14·1, respectively. The general increase in the net output of production in the province during 1928 indicated that the improvement in business conditions was well distributed throughout the main branches of industry.

Details showing the gross and net values of production, by industries, in the various provinces in 1928, together with percentages, are given in Tables **4** and **5**.

4.—Gross and Net Values of Production in Canada, by Industries and Provinces, 1928.

NOTE.—For Dominion totals, see Tables **1** and **2**.

GROSS PRODUCTION.

Industry.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.
	$	$	$	$	$
Agriculture	23,216,000	43,963,000	35,802,000	316,701,000	570,717,580
Forestry	861,656	12,366,738	32,590,261	162,632,029	125,901,720
Fisheries	1,657,920	16,220,153	6,017,300	3,403,475	4,030,753
Trapping	6,472	219,882	189,950	3,276,054	4,116,703
Mining	–	30,524,392	2,198,919	43,932,979	108,347,555
Electric power	190,478	3,280,348	2,389,616	43,032,444	67,311,989
Construction	559,000	29,756,000	7,824,000	153,560,000	190,560,000
Custom and repair	315,000	4,338,000	2,714,000	24,610,000	59,431,000
Manufactures[1]	4,445,160	84,948,608	67,413,742	1,073,162,291	1,949,724,119
Grand Totals	**28,925,960**	**204,211,630**	**132,957,699**	**1,612,448,740**	**2,813,092,274**

Industry.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Yukon.
	$	$	$	$	$
Agriculture	160,965,000	413,894,000	282,849,000	57,204,000	–
Forestry	7,487,113	3,295,443	7,031,589	121,360,257	–
Fisheries	2,240,314	563,533	725,050	35,758,004	51,665
Trapping	1,316,446	1,821,492	1,536,629	1,526,621	2,593,578[2]
Mining	4,186,853	1,719,461	32,531,416	82,099,180	2,709,957
Electric power	6,801,801	3,775,975	4,556,228	12,226,083	127,493
Construction	24,042,000	22,127,000	17,910,000	42,[illegible]40,000	–
Custom and repair	10,016,000	8,066,000	8,498,000	11,097,000	–
Manufactures[1]	159,435,094	59,125,280	100,744,401	270,851,669	–
Grand Totals	**355,009,130**	**502,850,308**	**439,513,402**	**480,127,529**	**5,482,693**

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[1] The totals for manufactures involve duplicated amounts which were deducted in computing the grand total for each province. The duplication arises from including in two places a number of industries which may be regarded as extractive or as manufacturing processes. Shipbuilding has been included under construction as well as under manufacturing. The following statement gives the amount of the duplication by provinces:—Prince Edward Island, $2,362,451; Nova Scotia, $19,633,584; New Brunswick, $26,182,766; Quebec, $198,424,391; Ontario, $245,542,494; Manitoba, $18,348,435; Saskatchewan, $10,779,375; Alberta, $15,283,918; British Columbia, $140,901,136.

[2] Includes the trapping industry of the Northwest Territories.

4.—Gross and Net Values of Production in Canada, by Industries and Provinces, 1928—concluded.

NET PRODUCTION.

Industry.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.
	$	$	$	$	$
Agriculture	19,384,324	36,583,965	29,838,855	228,209,110	393,106,062
Forestry	780,673	10,017,630	22,355,929	105,949,186	87,063,941
Fisheries	1,196,681	11,681,995	5,001,641	2,996,614	4,030,753
Trapping	6,472	219,882	189,950	3,276,054	4,116,703
Mining	–	30,524,392	2,198,919	37,037,420	99,584,718
Electric power	189,997	2,627,388	1,900,602	36,172,736	47,745,431
Construction	363,000	19,574,000	5,086,000	101,195,000	123,756,000
Custom and repair	201,000	2,772,000	1,734,000	15,725,000	37,975,000
Manufactures[1]	1,697,868	40,780,167	27,663,181	562,581,419	915,222,879
Grand Totals	**23,128,829**	**144,272,367**	**85,364,983**	**979,666,796**	**1,572,835,443**

Industry.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Yukon.
	$	$	$	$	$
Agriculture	135,435,238	364,992,273	248,288,742	45,432,894	–
Forestry	5,625,464	3,085,930	5,833,515	82,908,779	–
Fisheries	2,240,314	563,533	725,050	26,562,727	51,665
Trapping	1,316,446	1,821,492	1,536,629	1,526,621	2,593,578[2]
Mining	4,186,853	1,719,461	32,531,416	64,496,351	2,709,957
Electric power	5,864,851	3,755,734	3,940,482	10,018,853	110,745
Construction	15,624,000	14,383,000	11,642,000	27,541,000	–
Custom and repair	6,400,000	5,154,000	5,430,000	7,091,000	–
Manufactures[1]	71,150,401	24,938,549	41,345,704	133,665,857	–
Grand Totals	**235,182,568**	**413,825,134**	**341,413,575**	**321,354,242**	**5,465,945**

[1] The totals for manufactures involve duplicated amounts which were deducted in computing the grand total for each province. The duplication arises from including in two places a number of industries which may be regarded as extractive or as manufacturing processes. Shipbuilding has been included under construction as well as under manufacturing. The following statement gives the amount of the duplication by provinces:—Prince Edward Island, $691,186; Nova Scotia, $10,519,237; New Brunswick, $10,604,984; Quebec, $113,475,776; Ontario, $139,769,604; Manitoba, $12,661,032; Saskatchewan, $6,588,904; Alberta, $9,869,620; British Columbia, $77,898,377.

[2] Includes the trapping industry of the Northwest Territories.

5.—Percentage of the Value of the Net Production in each Industry to the Total Net Production of each Province, 1928.

Industry.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.
	p.c.	p.c.	p.c.	p.c.	p.c.
Agriculture	83·81	25·36	34·95	23·29	24·99
Forestry	3·38	6·95	26·19	10·82	5·54
Fisheries	5·17	8·10	5·86	0·31	0·26
Trapping	0·03	0·15	0·22	0·33	0·26
Mining	–	21·16	2·58	3·78	6·33
Electric power	0·82	1·82	2·23	3·69	3·04
Construction	1·57	13·57	5·96	10·33	7·87
Custom and repair	0·87	1·92	2·03	1·61	2·41
Manufactures, n.e.s	4·35	20·97	19·98	45·84	49·30
Grand Totals	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**
Total Manufactures (percentage to Grand Total of Net Production)	7·34	28·27	32·41	57·43	58·19

5.—Percentage of the Value of the Net Production in each Industry to the Total Net Production of each Province, 1928—concluded.

Industry.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Yukon.	Canada.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Agriculture	57·59	88·20	72·72	14·14	–	36·42
Forestry	2·39	0·75	1·71	25·80	–	7·85
Fisheries	0·95	0·14	0·21	8·26	0·94	1·34
Trapping	0·56	0·44	0·45	0·48	47·45[1]	0·40
Mining	1·78	0·42	9·53	20·07	49·58	6·67
Electric power	2·49	0·91	1·16	3·12	2·03	2·72
Construction	6·65	3·47	3·41	8·57	–	7·74
Custom and repair	2·72	1·24	1·59	2·21	–	2·00
Manufactures, n.e.s	24·87	4·43	9·22	17·35	–	34·86
Grand Totals	**100·00**	**100·00**	**100·0**	**100·0**	**100·0**	**100·00**
Total Manufactures (percentage to Grand Total of Net Production)	30·25	6·03	12·11	41·59	–	44·12

[1] Includes the trapping industry of the Northwest Territories.

In view of the early completion of the 1929 production statistics, it is possible to give the following statement of the net values of production in the individual provinces and for Canada by industries for that year. The figures given are comparable with the 1928 net figures of Table 4.

STATEMENT OF THE NET VALUES OF PRODUCTION IN CANADA, BY INDUSTRIES AND PROVINCES, 1929.

Industry.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.
	$	$	$	$	$	$
Agriculture	19,650,000	30,159,723	28,346,000	206,847,195	340,303,820	68,274,916
Forestry	582,259	9,707,296	24,828,864	105,487,196	90,408,523	6,734,916
Fisheries	1,297,125	11,427,491	5,935,635	2,933,339	3,919,144	2,745,205
Trapping	14,598	238,933	194,233	2,350,353	4,020,005	1,143,439
Mining	–	30,904,453	2,439,072	46,358,285	117,662,505	5,423,825
Electric power	203,185	3,087,911	2,208,666	40,910,068	51,169,734	6,442,510
Construction	407,745	9,809,106	4,424,225	128,911,564	141,983,320	24,829,087
Custom and repair	203,000	2,544,000	1,532,000	19,816,000	43,747,000	8,305,000
Manufactures[1]	1,773,894	42,786,293	30,980,431	617,372,403	1,022,984,190	75,750,746
Grand Totals	**23,452,390**	**129,380,194**	**87,382,143**	**1,049,515,828**	**1,658,395,781**	**185,231,376**

Industry.	Saskatchewan.	Alberta.	British Columbia.	Yukon.	**Canada.**
	$	$	$	$	$
Agriculture	173,109,918	128,326,870	39,111,382	–	**1,034,129,824**
Forestry	5,291,482	7,720,289	86,888,253	–	**337,649,078**
Fisheries	572,871	732,214	23,930,692	24,805	**53,518,521**
Trapping	2,149,196	2,303,403	1,363,264	2,579,023[2]	**16,356,447**
Mining	2,253,506	34,739,986	68,162,878	2,905,736	**310,850,246**
Electric power	4,169,590	4,386,380	10,305,402	–	**122,883,446**
Construction	22,219,795	18,953,740	35,170,816	–	**386,709,398**
Custom and repair	7,266,000	6,960,000	9,245,000	–	**99,618,000**
Manufactures[1]	29,292,332	44,123,868	132,286,208	–	**1,997,350,365**
Grand Totals	**238,781,959**	**237,493,962**	**331,466,014**	**5,509,564**	**3,946,609,211**

[1] The duplication between the primary industries and manufactures deducted in computing the grand totals was as follows:—Prince Edward Island, $679,416; Nova Scotia, $11,285,012; New Brunswick, $13,506,983; Quebec, $121,470,575; Ontario, $157,802,460; Manitoba, $14,418,268; Saskatchewan, $7,542,731; Alberta, $10,752,788; British Columbia, $74,997,881; Canada, $412,456,114.

[2] Includes the trapping industry of the Northwest Territories.

CHAPTER VIII.—AGRICULTURE.

Agriculture, including stock raising and horticulture, is the chief single industry of the Canadian people, employing, in 1921, 32·8 p.c. of the total gainfully occupied population and 38·16 p.c. or nearly two-fifths of the gainfully occupied males. In addition, it provides the raw material for many Canadian manufactures, and its products in raw or manufactured form constitute a very large percentage of Canadian exports. For a statement on the occupied and the available agricultural lands in Canada, see p. 39 of this volume.

This chapter of the present volume begins with a statement of current governmental activities in connection with agriculture, including those of the Dominion and Provincial Experimental Stations. Then come statistics of agriculture, including agricultural revenue and wealth, field crops, farm live stock and poultry, fur farming, dairying, fruit, special crops, farm labour and wages, prices and miscellaneous. Since Canadian exports of agricultural commodities are sold in the world market, the chapter closes with a review of the world's statistics of agriculture, compiled from the publications of the International Institute of Agriculture.

The Canada Year Book, 1924, contained, on pages 186 to 191, an article on the "Development of Agriculture in Canada", by Dr. J. H. Grisdale, Deputy Minister, Department of Agriculture, Ottawa. To this the interested reader is referred.

Section 1.—The Government in Relation to Agriculture.

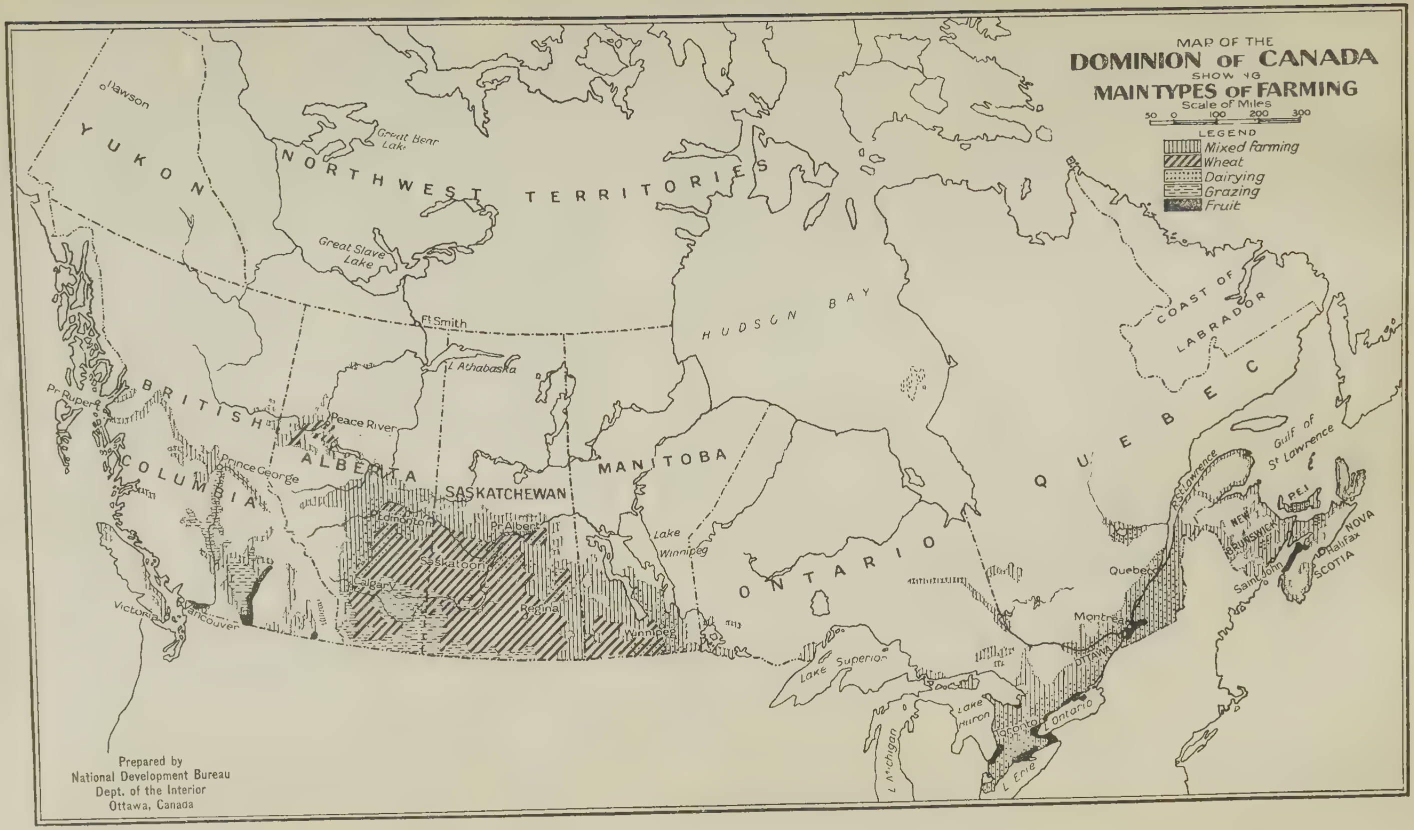
It is provided in section 95 of the British North America Act that "in each province the Legislature may make laws in relation to agriculture in the province"; it is also "declared that the Parliament of Canada may from time to time make laws in relation to agriculture in all or any of the provinces; and any law of the Legislature of a province relative to agriculture . . . . shall have effect in and for the province as long and as far only as it is not repugnant to any Act of the Parliament of Canada".

As a result of this provision, there exist at the present time Departments of Agriculture with Ministers of Agriculture at their heads, both in the Dominion and in each of the nine provinces, though in most provinces the portfolio of agriculture is combined with one or more other portfolios in the hands of a single Minister. A short sketch of the functions of the various Departments follows.

Subsection 1.—The Dominion Department of Agriculture.

The Dominion Department of Agriculture was constituted in 1868 under authority of 31 Vict., c. 53, with numerous functions that were by no means purely agricultural, including (1) agriculture; (2) immigration and emigration; (3) public health and quarantine; (4) the marine and immigrant hospital at Quebec; (5) arts and manufactures; (6) the census, statistics and the registration of statistics; (7) patents of invention; (8) copyright; (9) industrial designs and trade marks.

In the course of time the purely agricultural work of the Department came to demand greater attention; the non-agricultural functions were one by one entrusted to other Departments of the Government, while specialization became the order of the day within the Department of Agriculture itself. At the present


MAP OF THE
DOMINION OF CANADA
SHOWING
MAIN TYPES OF FARMING
Scale of Miles
50 0 100 200 300
LEGEND
▥ Mixed Farming
▨ Wheat
░ Dairying
▤ Grazing
■ Fruit
Dawson
YUKON
NORTHWEST TERRITORIES
Great Bear Lake
Great Slave Lake
Ft Smith
L Athabaska
HUDSON BAY
COAST OF LABRADOR
QUEBEC
Gulf of St Lawrence
St Lawrence
P.E.I.
NEW BRUNSWICK
NOVA SCOTIA
Halifax
Saint John
Quebec
Montreal
OTTAWA
ONTARIO
Lake Winnipeg
Lake Superior
Lake Huron
L Michigan
Toronto
Ontario
L Erie
MANITOBA
Winnipeg
SASKATCHEWAN
Pr Albert
Saskatoon
Regina
ALBERTA
Peace River
Edmonton
Calgary
BRITISH COLUMBIA
Pr Rupert
Prince George
Vancouver
Victoria
Prepared by
National Development Bureau
Dept. of the Interior
Ottawa, Canada

time it includes the following branches:—(1) Experimental Farms; (2) Dairy and Cold Storage; (3) Health of Animals; (4) Live Stock; (5) Seed; (6) Entomological; (7) Fruit; (8) Publications; (9) Agricultural Economics.

For the Acts of Parliament administered by the Dominion Department of Agriculture, see in the index "Acts of Parliament administered by Dominion Government Departments". For the publications of the Department, covering a wide field of information, see in the index the entry "Publications of Dominion Departments".

Subsection 2.—Provincial Departments of Agriculture.

Prince Edward Island.—The Department of Agriculture is presided over by the Minister, and the staff consists of a Deputy Minister, a Live Stock Superintendent, a Superintendent of Women's Institutes and a Dairy Superintendent. Assistance is given in co-operative marketing, promoting the live stock industry and encouraging exhibitions, the formation of boys' and girls' clubs and the welfare of agriculture generally.

Nova Scotia.—Agriculture in the province of Nova Scotia is administered by the Department of Agriculture. The Department is divided into twenty main branches:—(1) administration, (2) agricultural college, (3) demonstration farm, (4) demonstration poultry plant, (5) poultry, (6) government creameries, (7) government cheese factory, (8) dairying, (9) horticulture, (10) apiculture, (11) live stock, (12) entomology, (13) botany, (14) soils and fertilizers, (15) agricultural associations and societies, (16) exhibitions, (17) extension service, (18) women's institutes, (19) field crops, (20) marketing. During the past year the Information Branch of the Department of Agriculture has been broadcasting over CHNS (the radio station of the *Halifax Herald*) a series of radio talks on timely agricultural subjects by experts in the various lines of technical agriculture.

New Brunswick.—The branches of the Department of Agriculture of New Brunswick are as follows:—(1) industry, immigration and farm settlement, (2) elementary agricultural education, (3) agricultural societies and live stock, (4) dairying, (5) horticulture, (6) soils and crops, (7) poultry, (8) bee-keeping, (9) women's institutes, (10) agricultural representatives.

Quebec.—The Québec Department of Agriculture has been reorganized during the course of the year and now comprises a certain number of branches and sections as follows:—*Agricultural Economics Branch,* including the following sections:—publicity; co-operation, markets and statistics; demonstration farms; agricultural surveys; field husbandry; drainage, home economics, bee-keeping and sugar making; agricultural societies. *Live Stock Branch,* including the following sections:—dairy; veterinary; swine; sheep; horses; poultry; farm buildings. *Horticulture Branch,* including the following sections:—fruit growing; truck crops; vegetable canning; flower growing; phytopathology; entomology; botany. *Agricultural Representatives Branch:*—78 agricultural representatives' offices are now established in rural counties of Quebec. The above organizations are all under one General Director of Branches.

There are other activities which are not included in the above organization, such as:—agricultural education; agricultural merit competition; provincial dairy school.

Ontario.—The Ontario Department of Agriculture includes the following branches:—agricultural and horticultural societies, live stock, institutes, dairy, fruit, crops, co-operation and markets, statistics and publications, agricultural representatives, colonization and immigration. The Department conducts the Ontario Agricultural College, the Ontario Veterinary College, and the Experimental Farm at Guelph, the Agricultural School at Kemptville, the Ridgetown Experimental Farm, the Horticultural Experimental Station at Vineland, and the Demonstration Farm at New Liskeard.

Manitoba.—The Manitoba Department of Agriculture includes an agricultural extension service, a dairy branch, a publications and statistics branch, a live-stock branch, a game branch, a co-operative marketing branch, and a weeds branch. It also conducts the Manitoba branch of the Employment Service of Canada.

Saskatchewan.—The work of the Department of Agriculture is chiefly administrative. It includes the following principal branches:—live stock, field crops, dairy, bureau of statistics, co-operative organization and markets and the debt adjustment bureau. The live-stock branch provides the organization for examining and licensing stallions, purchasing and selling cattle, sheep and hogs to farmers on credit terms, and registering brands for live stock. Purebred sire areas are being created under statutory authority in order to eliminate undesirable sires and improve the quality of live stock. The poultry industry is promoted through the flock culling service, the turkey grading service and the approved hatchery policy. The field crops branch aids in promoting better crops and providing control measures for suppressing insect and weed pests. The dairy branch directs the grading of cream at all the creameries, promotes herd improvement through cow-testing and administers the provisions of the Dairy Products Act with respect to licensing creamery operators, cream testers, and the bonding of creameries. The Bureau of Statistics, in co-operation with the Dominion Bureau of Statistics, maintains a crop-reporting service and gathers data annually respecting the crops and live stock of the province. The co-operative organization and markets branch grants charters to co-operative associations under the Co-operative Associations Act, promotes co-operative stock shipping and poultry marketing and maintains an exchange service by a weekly news letter through which buyer and seller are brought together. An apiary division has been organized to assist bee-keeping which is developing substantially. Agricultural societies are organized by the Department and grants are paid through the Department, while direction of the activities of societies is centred in the College of Agriculture of the University of Saskatchewan.

Alberta.—The Alberta Department conducts the following main services:—agricultural schools and demonstration farms, field crops, dairy, live stock, veterinary, poultry, apiaries, fairs and institutes, branding, game regulation, women's bureau service, provincial publicity bureau, crop reports and statistics, marketing services, district agriculturists and moving picture bureau, also a branch looking after the fur farm leases of the province.

The attention of the Department has recently been given to the development of apiculture and a Provincial Apiarist has been appointed. Increased encouragement is being given to the live-stock industry through the "Purebred Bulls Purchase Act." Increasing efforts are being made to cope with the weed menace and encouragement is being given to the sale and production of registered seed. The poultry industry is also receiving increased attention. Money is expended each summer in connection with soil survey work, and effort is being directed towards the improvement of agricultural machinery.

British Columbia.—On April 1, 1930, the Department of Agriculture was reorganized into five main divisions, as follows: executive, plant industry, animal industry, markets, colonization and land settlement. In charge of these main divisions are officials who formerly directed a number of smaller branches.

The district agriculturist system has been reorganized with eight district agriculturists under the Director of Plant Industry, and eight under the Director of Animal Industry.

Some of the special lines of work conducted by the Department during the year were: fruit and vegetable trial plots, in which improved varieties of shipping and canning strawberries were tried out; fertilizer demonstration work, with cannery peas. In the Livestock Section, special work has been done with animal parasites, also herd improvement in co-operation with cow-testing associations, etc.

For the publications of the provincial Departments of Agriculture, see in the index the entry "Publications of Provincial Governments".

Subsection 3.—Dominion and Provincial Agricultural Experimental Stations.

Amongst the most important contributions of Canadian Governments to the development of agriculture throughout the country, is the maintenance of agricultural experimental stations, where research work in both plant and animal breeding and adaptation to climatic conditions is carried on. Already this work has had a profound effect in the improvement of Canadian agriculture. The introduction during recent years of Marquis wheat is an outstanding example, and it is of interest to note that other newer wheats, particularly Garnet, also originated by the experimental farms, may in the near future replace the Marquis in large areas. Among the earlier experiments undertaken, the results of which have passed permanently into good Canadian farm practice, may be mentioned those relating to early seeding, summer fallowing, the use of farmyard manure, the fertilizing value of clover crops and the introduction of suitable grasses and clovers. Both the common red clover and alfalfa now enter into rotations as the result of experiments and efforts to obtain hardy strains and to discover means of resistance to winter-killing. Further experiments with earlier-ripening and drought-resisting cereals are now being carried on, each new discovery increasing the cultivable area of Canada. Other researches relate to the production of frost-resisting fruit trees for the Prairie Provinces. This research work has already had a profoundly ameliorating effect upon Canadian agriculture. Statements regarding the work now under way at the Dominion Experimental Farms and Stations and at Provincial Agricultural Colleges and Experimental Stations follow.

(A) Dominion Experimental Farms and Stations.[1]

Inaugurated in 1886 by Act of Parliament (49 Vict., c. 23), the Dominion Experimental Farms system was at first made up of the Central Farm at Ottawa and four branch farms:—one at Nappan, Nova Scotia, for the Maritime Provinces; one at Brandon for Manitoba; one at Indian Head for the Northwest Territories; and one at Agassiz for British Columbia.

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[1] Revised by Dr. Frank T. Shutt, Assistant Director, Experimental Farms Branch, Ottawa.

The opening up and rapid settlement of the Dominion have led to a corresponding increase in the number of experimental farms and stations.[1] These, with an experimental fox ranch, now total 27, with a total acreage of 14,764·70, as compared with the original five farms, with a total acreage of 3,472, established in 1886. The following table shows the present number of farms and stations, with the acreage of each and the date of establishment.

DOMINION EXPERIMENTAL FARMS AND STATIONS, 1930.

Farm or Station.	Province.	Acreage.	Date Established.
Central Farm, Ottawa	Ontario	825·5	1886
Kapuskasing Station	Ontario	1,270	1910
Harrow Station	Ontario	198·3	1909
Charlottetown Station	P.E.I.	173·1	1909
Summerside Fox Ranch	P.E.I.	12	1925
Nappan Farm	Nova Scotia	465	1886
Kentville Station	Nova Scotia	452·9	1912
Fredericton	New Brunswick	525	1912
Ste. Anne de la Pocatière Station	Quebec	251	1911
Cap Rouge Station	Quebec	345·3	1911
Lennoxville Station	Quebec	600	1914
Farnham Station	Quebec	95	1912
La Ferme Station	Quebec	1,200	1916
L'Assomption Station	Quebec	160	1928
Brandon Farm	Manitoba	842	1886
Morden Station	Manitoba	614	1915
Indian Head Farm	Saskatchewan	1,320	1886
Rosthern Station	Saskatchewan	650	1908
Scott Station	Saskatchewan	520	1910
Swift Current Station	Saskatchewan	800	1920
Lacombe Station	Alberta	396	1907
Lethbridge Station	Alberta	500	1906
Invermere Station	British Columbia	49·6	1912
Windermere Station	British Columbia	425	1923
Summerland Station	British Columbia	545	1914
Agassiz Farm	British Columbia	1,400	1886
Sidney Station, Vancouver Island	British Columbia	130	1912

In addition there are eight sub-stations, *viz.:*—Wainwright, Fort Vermilion and Beaverlodge, Alberta; Fort Smith, Resolution, Providence and Good Hope, Northwest Territories; Horse Farm, St. Joachim (operated from Cap Rouge), Quebec. There is also the Dominion Range Experiment Station at Manyberries, Alberta. Experimental work under the Division of Illustration Stations is conducted on 12 farms in Prince Edward Island, 15 in Nova Scotia, 19 in New Brunswick, 63 in Quebec, 19 in Ontario, 14 in Manitoba, 31 in Saskatchewan, 19 in Alberta and 15 in British Columbia. Small experimental plots are also being operated at several points along the line of the Hudson Bay Railway.

Organization of the System of Experimental Farms.—The Central Farm at Ottawa, as its name implies, is the centre or headquarters of the system. Thereat are stationed the Director, having control and general supervision of the whole, and the chief technical officers, each having charge of his special line of work, both at the Central Farm and the branch farms. At Ottawa, the policy to be pursued throughout the system is settled by agreement after discussion by the Director, the technical officers, and the superintendents on whose branch farms the work is to be conducted. The technical staff at Ottawa supervises the actual experimental work at the Central Farm. At the branches, the superintendents are in charge of the carrying out of the various lines of general experiment, and also conduct experiments of local importance.

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[1] The five original farms established in 1886 are known as "Experimental Farms"; those added since are styled "Experimental Stations". No distinction in the work is implied by these titles.

The Divisions at Ottawa, which represent the different lines of work carried on throughout the system, and have each a technical officer in charge, are as follows:—(1) Animal Husbandry; (2) Bacteriology; (3) Bees; (4) Botany; (5) Cereals; (6) Chemistry; (7) Extension and Publicity; (8) Economic Fibre Production; (9) Field Husbandry; (10) Forage Plants; (11) Horticulture; (12) Illustration Stations; (13) Poultry and (14) Tobacco. Briefly the main lines of the work of these Divisions are as follows:—

Animal Husbandry.—This Division engages in work with beef cattle, dairy cattle and dairying, horses, sheep and swine, and undertakes experiments in the breeding, feeding, housing and management of each of these classes of live stock. Under this Division also is operated the work in breeding cattle and hybrid buffalo at Wainwright, Alberta.

Bacteriology.—The work of this Division is of two types, routine and research. The former includes the bacteriological analysis of water, milk, foods and feeding stuffs, soils and soil condiments, and the manufacture and furnishing of nitro-cultures for legume growing. The main work is of an investigational nature, in which close co-operation with the other Divisions is maintained in research work having a bacteriological bearing.

Botany.—The work of this Division falls into two classes, economic botany and plant pathology. The former includes the study of medicinal, poisonous and economic plants. Different varieties and strains of fibre plants are also studied and special attention is given to the life history and control of weeds. The Division also has charge of the arboretum at the Central Farm. In plant pathology, in addition to the pathological laboratory at Ottawa, there are laboratories at Charlottetown, P.E.I.; Kentville, N.S.; Fredericton, N.B.; Ste. Anne de la Pocatière, Que.; St. Catharines, Ont.; Summerland and Saanichton, B.C. In addition, three large laboratories for the study of rusts and other grain diseases are maintained at Edmonton, Alta., Saskatoon, Sask. and Winnipeg, Man. Investigations are being conducted into diseases affecting forest trees, fruit trees, cereals, small fruits, potatoes, vegetables and tobaccos.

Cereals.—In the Cereal Division, the work comprises the production, by cross-breeding and selection, of new varieties of grains and the testing of these as to their suitability for various parts of Canada. All approved varieties are made available for propagation by farmers. Among the more important varieties produced in this Division and now widely grown in Canada are Marquis and Huron wheats, Banner Ottawa 49 oats, and Arthur peas. Two interesting varieties originated by this Division are the Garnet and Reward wheats, now being tested by farmers; they ripen not quite as early as Prelude but yield better. The Division also carries on extensive milling and baking tests. The expansion of breeding work especially for disease resistance, and the creation of an extensive plan of co-operative experiments with farmers, are two developments of recent years.

Chemistry.—The work of the Division of Chemistry comprises the analysis of fodders and feeding stuffs, fertilizers, soils, well waters, insecticides, fungicides, etc. It also assists other Divisions in chemical problems and does a large amount of investigational and analytical work for other Branches and Departments. Field tests with various kinds and quantities of fertilizers are carried on by this Division at a number of the branch farms and stations.

Extension and Publicity.—This Division acts as a connecting link between the experimental farms and the farmer, by making the work of the farms as widely known as possible. Two chief means used are exhibits at as many fairs as possible each year and extension of the departmental mailing lists.

Economic Fibre Plants.—The Division studies the areas in Canada suitable for fibre production, the best varieties and strains of seed of fibre plants (flax and hemp), cultural methods, harvesting, retting and scutching processes, etc. Chiefly for demonstrational purposes, the Division is conducting extensive co-operative trials at Forest, Ont., Ste. Anne de la Pocatière, Que., Kentville and Lunenburg, N.S.

Field Husbandry.—This Division applies, under field conditions, the results obtained by other Divisions directly engaged in scientific research. Some of the main lines of work under way are tests of fertilizers, moisture requirements of various crops, methods of drainage, rotations and cultural methods. Data of cost of production of field crops are gathered in connection with this work. Range land investigations are also under way.

Forage Plants.—The Division has for its work the originating and variety testing of grasses, leguminous forage plants, field roots and Indian corn; plant breeding with these; the collection of genera and species likely to be of value as forage plants; the study of the possibilities and methods of growing root seed, including sugar beets, in Canada, and the distribution for trial of seed of varieties newly obtained and not available commercially.

Horticulture.—The work of the Division of Horticulture falls under four main heads:—vegetable gardening, orcharding and small fruits, ornamental gardening and plant breeding. In the three first named, the testing of varieties is a main feature, with a view to ascertaining the hardiest, earliest, best-yielding and most disease-resistant sorts. In plant breeding, the aim is the improvement of existing sorts by cross-breeding. Greenhouse work is also given special attention at Ottawa. Canning experiments and demonstrations are carried on. Much co-operative work with farmers in orchard experiments, blueberry culture, etc., is under way.

Illustration Stations.—This Division forms another connecting link between the experimental farms and the farmer. The stations are now 207 in number. Each is located on the farm of a representative farmer, who does the work according to directions framed to illustrate the best rotations, the best varieties of crops and the best cultural methods, as determined by the work of years on the experimental farms.

Poultry.—The scope of the work of the Poultry Division has been greatly extended during the last few years. It now covers the following main lines of investigation:—artificial and natural incubation, poultry breeding, systems of breeding and rearing, production of heavy-laying strains, feeding for eggs and table, and housing of poultry. Poultry survey work, *i.e.*, the endeavour to get groups of farmers in various localities to keep accurate records of their poultry costs and returns, is already showing results in the better housing, breeding and care of the farm flock. Egg-laying contests and registration work are carried on. Investigations in poultry diseases are extensively conducted in co-operation with the Health of Animals Branch.

Tobacco.—The Tobacco Division deals with the breeding, variety tests and cultural methods, the warehousing and marketing of tobacco. A complete analysis of the soils of the tobacco-producing regions of Canada is being made. During the growing season, inspectors examine the tobacco fields of as many growers as possible, with a view to suggesting the best cultural methods and means of combating diseases and insect pests. Co-operative trials amongst farmers are extensively conducted.

In addition to the work done by the Divisions of Extension and Publicity and Illustration Stations, the results of the work of the experimental farms are made available to the farmer:—(1) by correspondence; (2) by publications; (3) by " Seasonable Hints," a 16 page pamphlet, brought out every three months, with a circulation of about 490,000 and now in its fifteenth year; and (4) by articles in the press. The farm officers devote considerable time each year to lecturing, demonstrating, judging at fairs and assisting at short courses in agriculture. Excursions to the various farms are also a valuable means of bringing the work to the attention of the farmer.

(B) Provincial Agricultural Colleges and Experimental Stations.

Under the above heading, outlines of the work done at provincial agricultural colleges and experimental stations were given by provinces at pp. 198-203 inclusive of the 1930 Year Book. The interested reader is referred to that volume, and to the following provincial publications for information concerning courses and programs of work at these institutions:—

Nova Scotia.—Annual Report of the Department of Natural Resources for Nova Scotia; College Prospectus of the College of Agriculture, Truro, N.S.

Quebec.—The Annual Report of Macdonald College, Ste. Anne de Bellevue, Quebec, and the prospectuses and annual announcements of the School of Agriculture, Ste. Anne de la Pocatière, and the Oka Agricultural Institute, Lake of Two Mountains, Quebec.

Ontario.—Annual Report of the Ontario Agricultural College and Experimental Farm, Guelph, Ont.

Manitoba.—Annual Report of the Manitoba Agricultural College, Winnipeg, Man.

Saskatchewan.—Annual Report of the College of Agriculture, University of Saskatchewan, Saskatoon, Sask.

Alberta.—Annual Report of the College of Agriculture, University of Alberta, Edmonton, Alta.

British Columbia.—Annual Report of the Faculty of Agriculture, University of British Columbia, Vancouver, B.C.

Section 2.—Statistics of Agriculture.[1]

Census Statistics.—At each of the six decennial censuses of Canada taken since Confederation, statistics of the agricultural activities carried on throughout the country have been secured. The scope of these statistics has been extended from time to time and those of the census of 1931 omit few important phases of agriculture with which a census could deal successfully. In all the later censuses the statistics of number, acreage and condition of farms, the value of farm property, the acreage sown, the yield of crops, the value of that yield, the number of fruit trees and the production and value of fruit, the number and value of live stock, etc., have been collected on a basis which allows comparison between the different censuses. Among the extensions in the scope of the census of 1921 were such matters as the details of birthplace, age, length of residence in Canada and experience of farm operators, the chief items of farm expenditure, an attempt for the first time to obtain the quantities of vegetables grown for sale, a classification of live stock according to age, etc., the number and value of young animals raised on farms, and an enumeration of farm facilities, including tractors, automobiles, telephones and gas and electric lighting. The schedules for 1931 have been designed to secure more complete information on farm workers and farm population; the degree to which mechanization of farms is proceeding; and the proportion of crops sold or to be sold. As a result of these extensions, comparisons with future censuses will be on a much more detailed basis than in the past, and the trend of agricultural development will be seen with greater accuracy. The statistics of agriculture collected in the census of 1921, which are at present the latest available except as regards the Prairie Provinces, are published in full detail in Volume V of the census series, while a few of the most significant features showing the growth of the agricultural industry from 1871 to the present will be found on pp. xxvi-xxvii of the introduction to this Year Book, in the "Statistical Summary of the Progress of Canada". A census of the three Prairie Provinces was taken in 1926 in connection with the census of population of that year, the results being published for each of these provinces separately as Part II of the respective census reports.[2] Censuses of these three provinces were also taken in 1906 and 1916.

Crop-Reporting Service.—The voluntary crop-reporting service of the Dominion Government, which has been in operation since 1908, has for its object the issue of accurate, timely and independent reports on crop conditions throughout the Dominion:—first, in the interests of the general body of Canadian farmers; secondly, for the information and guidance of other interests allied to and dependent upon agriculture (interests represented by statesmen, economists, bankers, grain dealers, transportation agents and others); and thirdly, for reporting to the Institute of Agriculture at Rome (to which Canada is an adhering country), in return for reports on the production of other countries and of world totals which influence prices and consequently affect the interests of Canada. A description of the crop-reporting service will be found in the Canada Year Book, 1925, p. 205. Supplementing the monthly reports from crop correspondents, the Bureau issues telegraphic crop reports utilizing the services of agriculturists throughout the Dominion. Previous to 1930, these were issued for the whole of Canada five times during the growing season. Beginning with the summer season of 1930 (and continuing in 1931), the telegraphic reports from the Prairie Provinces were issued every week from the first of June to the first of September, while the reports on a Dominion-wide basis were issued every two weeks during the same period. The program of reports for 1931-32 is given in the Monthly Bulletin of Agricultural Statistics, January, 1931, pp. 46-47.

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[1] Revised under the direction of Dr. T. W. Grindley, Chief of the Agricultural Branch, Dominion Bureau of Statistics. This Branch is concerned with both primary and secondary statistics of agriculture, with the statistics of the production and distribution of agricultural commodities. The primary statistics relate mainly to the reporting of crop conditions, annual crop and live-stock estimates, values of farm lands, wages of farm labour, and monthly and annual prices received by farmers for their products. The secondary statistics relate to the marketing of grain and live stock and reports on the milling industry and cold-storage holdings. A list of the publications of this Branch is given in Chapter XXVIII, Section I, under "Production."

[2] For a comparison of some of the agricultural statistics of the census of 1926 with previous census figures, see pp. 271-273 of the 1929 Year Book.

Annual Statistics.—In addition to the crop-reporting service, annual statistics of the areas under field crops and of the numbers of farm live stock are collected. These arrangements have been in force since 1918, and are carried out by the Dominion Bureau of Statistics in co-operation with the Provincial Governments. The statistics are secured by a simple schedule calling for a statement of the areas sown to field crops and of the numbers of farm animals alive on June 15. These statements are at present received from about one-fifth of the farmers of Canada, and they form the basis of the totals for the whole of Canada, the totals being calculated according to the proportion which exists between the number of returns and the total number of farms. The results for wheat, oats, barley, rye and flax in the three Prairie Provinces are ready for publication in August, while the results for the remaining crops and for the numbers of farm live stock are published in December. The areas, thus determined, when multiplied by the average yields per acre as reported by crop correspondents, form the basis of the total estimated production for each crop.

In 1930, in seven of the provinces, the schedules were distributed and collected through the agency of the rural schools, under plans which have been found effective in securing a larger sample of the farms of the country than could be obtained in any other way. In British Columbia the schedules were sent direct to the farmer through the mail. For Ontario, returns were collected through the rural post offices.

Monthly Bulletin of Agricultural Statistics.—Originally established in 1908 as the "Census and Statistics Monthly", but changed to its present title in April, 1917, this publication is now in its twenty-fourth year. It is the official organ not only for the monthly crop reports and annual statistics previously described, but also for statistics of dairying, fur farming, fruit, hives and honey, hops, tobacco, maple products, sugar beets, beet sugar, flax fibre, clover and grass seeds, exports, visible supplies, prices, values, foreign agriculture and other subjects in considerable variety.

Presentation of Agricultural Statistics.—In the current edition of the Year Book, statistics of agriculture are presented under the following headings:—(1) Agricultural revenue and wealth; (2) Acreage, yield, quality and value of principal field crops, distribution of the wheat and oat crops, etc.; (3) Farm live stock and poultry; (4) Fur farming; (5) Dairying; (6) Fruit production; (7) Special agricultural crops; (8) Farm labour and wages; (9) Prices of agricultural produce; (10) Agricultural statistics of the census; (11) Miscellaneous agricultural statistics; (12) World's principal agricultural statistics.

Subsection 1.—Agricultural Revenue and Wealth.

Revenue.—Table 1 shows under principal headings the gross agricultural revenue of Canada, by provinces, for the years 1925 to 1929. It is important to note that the figures represent gross values, as no distinction is made between crops used as materials for other kinds of production, such as the feeding of live stock, and no allowance is made for the costs of production.[1]

1.—Estimated Gross Annual Agricultural Revenue of Canada, by Provinces, 1925-1929. ("000" omitted.)

Item.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$
Canada—					
Field crops	1,098,304	1,104,983	1,173,133	1,125,003	948,981
Farm animals	177,031	178,383	183,927	197,880	207,317
Wool	3,958	4,140	4,108	5,099	4,470
Dairy products	284,863	277,305	294,874	297,625	291,743
Fruits and vegetables	48,897	43,075	46,025	48,756	46,398
Poultry and eggs	74,267	83,569	97,937	106,653	107,664
Fur farming	3,679	3,520	4,798	6,106	6,791
Maple products	5,288	4,896	4,935	5,583	6,119
Tobacco	7,004	7,380	9,112	6,834	6,276
Flax fibre	454	208	321	509	393
Clover and grass seed	3,598	5,097	3,841	2,957	2,123
Honey	2,472	1,921	2,937	3,015	2,849
Totals	**1,709,815**	**1,714,477**	**1,825,950**	**1,806,020**	**1,631,124**
Prince Edward Island—					
Field crops	15,417	17,079	13,421	12,444	16,940
Farm animals	2,276	2,170	2,122	2,353	2,405
Wool	127	111	108	146	122
Dairy products	3,998	3,711	3,683	3,804	2,955
Fruits and vegetables	250	250	250	253	253
Poultry and eggs	1,237	1,305	1,529	1,637	1,523
Fur farming	1,472	1,268	1,771	1,641	1,741
Clover and grass seed	21	72	39	18	35
Honey	–	–	–	1	2
Totals	**24,798**	**25,966**	**22,923**	**22,297**	**25,973**
Nova Scotia—					
Field crops	18,885	22,649	18,597	18,824	20,945
Farm animals	3,934	3,983	3,832	4,615	4,687
Wool	385	375	324	391	364
Dairy products	11,307	13,039	11,895	11,802	11,464
Fruits and vegetables	5,433	3,533	3,972	4,243	3,628
Poultry and eggs	1,099	1,332	1,583	1,761	1,905
Fur farming	170	212	296	367	346
Maple products	54	22	28	59	56
Clover and grass seed	24	12	8	12	10
Honey	–	4	6	6	7
Totals	**41,291**	**45,161**	**40,541**	**42,080**	**43,412**
New Brunswick—					
Field crops	25,681	23,338	18,413	18,275	23,835
Farm animals	3,357	3,499	3,249	3,778	3,647
Wool	219	197	191	242	191
Dairy products	8,602	9,030	9,641	8,662	8,734
Fruits and vegetables	1,052	1,019	1,070	1,011	999
Poultry and eggs	1,307	1,417	1,744	1,835	1,720
Fur farming	407	456	576	893	715
Maple products	30	18	30	32	38
Clover and grass seed	33	18	15	16	18
Honey	17	16	19	17	22
Totals	**40,705**	**39,008**	**34,948**	**34,761**	**39,919**

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[1] For explanation of the methods used in estimating values, see the Monthly Bulletin of Agricultural Statistics for March, 1927, pp. 81–84.

1.—Estimated Gross Annual Agricultural Revenue of Canada, by Provinces, 1925-1929. ("000" omitted)—continued.

Item.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$
Quebec—					
Field crops	150,253	139,263	144,273	130,363	153,664
Farm animals	34,222	35,584	33,298	37,319	41,001
Wool	1,344	1,373	1,281	1,367	1,320
Dairy products	83,663	82,728	88,527	93,116	86,698
Fruits and vegetables	7,405	7,397	7,555	7,577	7,974
Poultry and eggs	10,707	13,492	14,861	16,180	14,407
Fur farming	420	636	755	1,506	2,104
Maple products	3,333	2,902	3,106	3,604	4,767
Tobacco	1,726	1,826	1,469	978	1,210
Clover and grass seed	413	324	270	151	115
Honey	639	600	678	611	438
Totals	**294,125**	**286,125**	**296,073**	**292,712**	**313,698**
Ontario—					
Field crops	250,466	261,264	255,900	243,768	241,778
Farm animals	68,036	73,782	72,896	75,908	76,022
Wool	1,207	1,087	1,112	1,502	1,323
Dairy products	109,689	109,187	115,126	117,935	115,757
Fruits and vegetables	19,041	15,766	18,344	19,658	19,208
Poultry and eggs	33,570	34,235	41,296	45,993	44,773
Fur farming	477	473	566	748	777
Maple products	1,871	1,954	1,772	1,888	1,258
Tobacco	5,276	5,540	7,556	5,823	5,039
Flax fibre	454	208	321	509	393
Clover and grass seed	2,822	4,458	2,798	2,314	1,672
Honey	1,000	500	890	1,267	1,208
Totals	**493,909**	**508,454**	**518,577**	**517,313**	**509,208**
Manitoba—					
Field crops	93,191	111,937	82,280	113,492	78,919
Farm animals	11,324	10,556	13,044	14,172	14,367
Wool	108	114	129	163	162
Dairy products	15,538	15,924	17,781	17,597	14,404
Fruits and vegetables	1,700	1,542	1,609	1,567	1,464
Poultry and eggs	4,712	5,645	7,210	7,272	8,920
Fur farming	317	118	367	335	374
Clover and grass seed	44	29	195	103	40
Honey	616	528	960	751	822
Totals	**127,550**	**146,393**	**123,575**	**155,452**	**119,472**
Saskatchewan—					
Field crops	368,275	309,128	348,005	348,586	235,248
Farm animals	22,221	20,743	21,956	23,390	25,150
Wool	158	176	187	237	226
Dairy products	25,504	20,598	24,449	21,313	23,125
Fruits and vegetables	2,500	2,452	2,701	2,737	1,850
Poultry and eggs	9,334	11,778	12,498	12,934	13,454
Fur farming	32	58	87	108	127
Clover and grass seed	54	54	305	260	50
Honey	37	38	105	78	74
Totals	**428,115**	**365,025**	**410,293**	**409,661**	**299,304**
Alberta—					
Field crops	157,227	202,149	272,743	220,786	157,254
Farm animals	27,929	23,529	27,952	29,322	32,271
Wool	317	593	633	794	519
Dairy products	20,136	16,488	16,521	14,980	18,928
Fruits and vegetables	1,860	1,768	1,770	1,858	1,800
Poultry and eggs	7,546	8,742	10,093	9,867	11,880
Fur farming	241	197	216	289	340
Clover and grass seed	121	90	130	77	176
Honey	23	37	60	67	78
Totals	**215,400**	**253,593**	**330,118**	**278,040**	**223,246**

1.—Estimated Gross Annual Agricultural Revenue of Canada, by Provinces, 1925-1929. ("000" omitted)—concluded.

Item.	1925.	1926.	1927.	1928.	1929.
British Columbia—	$	$	$	$	$
Field crops	18,909	18,176	19,501	18,465	20,398
Farm animals	3,732	4,537	5,578	7,023	7,767
Wool	93	114	143	257	243
Dairy products	6,426	6,600	7,251	8,398	9,678
Fruits and vegetables	9,656	9,348	8,756	9,852	9,222
Poultry and eggs	4,755	5,623	7,123	9,174	9,082
Fur farming[1]	143	102	164	219	267
Tobacco	2	14	87	33	27
Clover and grass seed	66	40	82	6	7
Honey	140	198	217	217	198
Totals	**43,922**	**44,752**	**48,902**	**53,644**	**56,889**

[1] Including Yukon Territory.

Table **1** shows that in 1929 the estimated agricultural revenue of Canada was $1,631,124,000 as compared with $1,806,020,000 in 1928, $1,825,950,000 in 1927, $1,714,477,000 in 1926, and $1,709,815,000 in 1925. The total for 1929 shows a decrease of $174,896,000 or 9·7 p.c. as compared with 1928. The decrease was mainly due to field crops.

Comparing the provinces for 1929, Ontario leads with a total revenue of $509,208,000, and the provinces next in order are:—Quebec, $313,698,000; Saskatchewan, $299,304,000; Alberta, $223,246,000; Manitoba, $119,472,000; British Columbia, $56,889,000; Nova Scotia, $43,412,000; New Brunswick, $39,919,000; and Prince Edward Island, $25,976,000.

Wealth.—Table **2** shows approximately, by provinces, the gross agricultural wealth of the Dominion in 1929.

2.—Estimated Gross Agricultural Wealth of Canada, by Provinces, 1929. ("000" omitted.)

Province.	Lands.	Buildings.	Implements and Machinery.	Live Stock.	Poultry.	Animals on Fur Farms.	Agricultural Production.	Total.
	$	$	$	$	$	$	$	$
P.E. Island	28,476	17,289	6,870	9,588	1,015	3,777	25,976	92,991
Nova Scotia	49,155	51,173	10,146	22,076	1,168	1,007	43,412	178,137
New Brunswick	61,112	45,158	13,545	17,975	1,162	2,178	39,919	181,049
Quebec	546,666	285,530	111,940	172,452	10,037	4,100	313,698	1,447,041
Ontario	808,124	491,330	169,954	277,720	25,380	4,200	509,208	2,287,684
Manitoba	315,245	113,005	67,848	66,472	5,358	1,913	119,472	689,313
Saskatchewan	877,042	216,398	176,676	134,950	7,240	814	299,304	1,712,424
Alberta	523,221	121,765	98,814	123,133	6,785	1,392	223,246	1,093,356
British Columbia	107,020	41,036	9,379	32,364	4,464	1,330	56,889	252,482
Totals	**3,316,061**	**1,382,684**	**665,172**	**856,730**	**62,069**	**20,711**	**1,631,124**	**7,939,477**

The values of buildings, lands, implements and machinery for the census year 1921 were considerably more than the values previously used in these calculations, which were based upon the census of 1911. The increase for the three items during the decade amounted to $1,115,986,000. There has, however, undoubtedly been a fall in the value of land during the latest eight years, consequent upon the fall in the prices of agricultural products and live stock, and there may also have been some change in the values of buildings, machinery and implements, but to what extent it is impossible to state. The estimates collected from crop correspondents of the value per acre of land, including buildings, show a drop in the value of land per acre from $40 in 1921 to $37 in 1929, and to $32 in 1930, resulting from decreases in most of the provinces.

The rates of change thus shown have been applied to the census data, with the result that the census figure of $3,702,370,000, the value of land in 1921, becomes $3,316,061,000 as the estimated value in 1923 to 1929.

Altogether, the gross agricultural wealth of Canada for 1929 may be estimated at $7,939,477,000, as compared with $8,022,719,000 in 1928. The decrease of $83,242,000 or about 1 p.c. is due entirely to reduced valuations of agricultural production, although live stock, poultry and animals on fur farms each show an increase.

Subsection 2.—Acreage, Yield, Quality and Value of Field Crops.

The Chief Field Crops of the Last Twenty Years.—In Table 3 will be found a summary statement of the acreage, yield and value of the field crops of wheat, oats, barley, rye, buckwheat, flaxseed, potatoes, hay and clover and alfalfa for the latest 10 years. Comparative figures back to 1908, given at pp. 230-232 of the 1929 Year Book, indicate the recent growth of Canadian agriculture. In particular may be noted the tripling of the wheat crop, the almost doubling of the oat crop, the tripling of the barley crop, the thirteen-fold increase in the rye crop, the 40 p.c. addition to the hay and clover crop and the seven-fold increase in the alfalfa crop within the past 22 years, though the 1930 crops do not, by any means, represent maximum yields, for all the above have attained higher levels of yield in intervening and in many cases immediately preceding years. On the other hand, the acreage and yield of the potato crop have not shown a wide variation throughout the period, presumably because this crop is produced mainly for home consumption. Those who desire figures for earlier years will find certain information on acreage, yield and value on page xxvi of the Introduction.

3.—Area, Yield and Value of Principal Crops Grown in Canada, 1921-1930.[1]

Crop and Year.	Area.	Yield per Acre.	Total Yield.	Average Price per bush.	Total Value.
	000 acres.	bush.	000 bush.	$	000 $
Wheat—					
1921	23,261	13·0	300,858	0·81	242,936
1922	22,423	17·8	399,786	0·85	339,419
1923	21,886	21·7	474,199	0·67	316,995
1924	22,056	11·9	262,097	1·22	320,362
1925	20,790	19·0	395,475	1·23	487,736
1926	22,896	17·8	407,136	1·09	442,221
1927	22,460	21·4	479,665	1·00	477,791
1928	24,119	23·5	566,726	0·80	451,235
1929	25,255	12·1	304,520	1·05	319,715
1930	24,898	16·0	397,872	0·44	174,792
Oats—					
1921	16,949	25·3	426,233	0·34	146,395
1922	14,541	33·8	491,230	0·38	185,455
1923	14,388	39·3	563,998	0·33	184,857
1924	14,491	28·0	405,976	0·49	200,688
1925	12,556	32·0	402,296	0·42	167,171
1926	12,741	30·1	383,416	0·48	184,098
1927	13,240	33·2	439,713	0·51	225,879
1928	13,137	34·4	452,153	0·47	210,956
1929	12,479	22·7	282,838	0·59	168,017
1930	13,259	31·9	423,148	0·24	102,919
Barley—					
1921	2,796	21·3	59,709	0·47	28,254
1922	2,600	27·8	71,865	0·46	33,335
1923	2,785	27·8	76,998	0·42	32,571
1924	3,407	26·1	88,807	0·70	61,760
1925	3,524	24·7	87,118	0·53	46,014
1926	3,647	27·4	99,987	0·52	52,059
1927	3,506	27·7	96,938	0·66	64,193
1928	4,881	27·9	136,391	0·56	76,112
1929	5,926	17·3	102,313	0·59	60,505
1930	5,559	24·3	135,160	0·20	27,254

3.—Area, Yield and Value of Principal Crops Grown in Canada, 1921-1930[1]—concluded.

Crop and Year.	Area.	Yield per Acre.	Total Yield.	Average Price per Bush.	Total Value.
	000 acres.	bush.	000 bush.	$	000 $
Rye—					
1921	1,842	11·8	21,455	0·72	15,399
1922	2,105	15·5	32,373	0·58	18,703
1923	1,448	16·0	23,232	0·49	11,340
1924	891	15·4	13,751	0·99	13,679
1925	643	14·2	9,159	0·77	7,048
1926	754	16·2	12,179	0·77	9,431
1927	743	20·9	15,571	0·82	12,746
1928	840	17·4	14,618	0·79	11,491
1929	992	13·3	13,161	0·84	11,095
1930	1,448	15·2	22,019	0·20	4,402
Buckwheat—					
1921	361	22·8	8,230	0·89	7,285
1922	431	22·5	9,701	0·84	8,141
1923	440	22·3	9,744	0·84	8,192
1924	442	25·8	11,412	0·89	10,149
1925	474	22·2	10,546	0·85	8,965
1926	457	21·6	9,882	0·87	8,598
1927	471	23·1	10,890	0·89	9,727
1928	503	21·7	10,899	0·93	10,128
1929	516	20·3	10,470	0·94	9,867
1930	490	22·2	10,903	0·65	7,124
Flaxseed—					
1921	533	7·8	4,112	1·44	5,938
1922	565	8·9	5,009	1·72	8,639
1923	630	11·3	7,140	1·77	12,644
1924	1,277	7·6	9,695	1·94	18,849
1925	843	7·4	6,237	1·85	11,542
1926	738	8·1	5,995	1·62	9,688
1927	476	10·3	4,885	1·55	7,562
1928	378	9·6	3,614	1·59	5,758
1929	382	5·4	2,060	2·38	4,898
1930	582	7·6	4,399	0·95	4,194
		cwt.	cwt.	per cwt.	
Potatoes—					
1921	702	91·8	64,408	1·28	82,148
1922	684	81·6	55,745	0·90	50,320
1923	561	99·0	55,497	1·02	56,398
1924	562	100·9	56,648	0·85	47,956
1925	522	77·0	40,217	2·06	82,860
1926	523	89·7	46,937	1·47	69,204
1927	572	81·2	46,458	1·17	54,341
1928	599	83·8	50,195	0·81	40,874
1929	544	73·4	39,930	1·59	63,372
1930	571	84·4	48,241	0·83	39,858
		tons.	000 tons.	per ton.	
Hay and clover—					
1921	10,615	1·07	11,366	23·56	267,764
1922	10,002	1·45	14,488	13·46	194,950
1923	9,726	1·55	14,845	10·97	162,882
1924	9,875	1·51	14,960	11·07	165,587
1925	9,563	1·56	14,962	10·35	154,886
1926	9,516	1·48	14,058	12·13	170,473
1927	10,227	1·70	17,370	10·41	180,835
1928	10,321	1·60	16,515	10·37	171,225
1929	10,560	1·50	15,833	11·65	184,528
1930	10,618	1·54	16,397	9·83	161,122
Alfalfa—					
1921	264	2·50	662	19·95	13,211
1922	306	2·65	806	12·77	10,295
1923	391	2·65	1,029	11·58	11,914
1924	474	2·65	1,257	11·70	14,705
1925	637	2·48	1,582	12·72	20,120
1926	837	2·46	2,061	13·30	27,414
1927	910	2·37	2,157	12·03	25,946
1928	854	2·35	2,010	11·51	23,138
1929	799	2·30	1,835	12·63	23,183
1930	744	2·20	1,640	12·12	19,877

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[1] Comparative figures for the years 1908–1920 are given in the Canada Year Book 1929, pp. 230–232. The total value of wheat for 1912 should be $139,090,000 instead of the $19,090,000 shown on p. 230 of the 1929 Year Book, the error being due to the dropping out of a figure.

Total Areas and Values, 1925-1930.—Table 4 shows for Canada and the provinces, over stated years, the total estimated areas and values of field crops, Table 5 the field crops of Canada compared as to quantity and value, and Tables 6 and 6A the areas, yields, quantities and values of the principal field crops, with five-year averages, in Canada and by provinces.

4.—Total Area and Value of Field Crops in Canada, 1925-1930.[1]

Province.	1925.	1926.	1927.	1928.	1929.	1930.
	acres.	acres.	acres.	acres.	acres.	acres.
Canada	**52,883,123**	**56,097,836**	**56,172,310**	**59,351,811**	**61,207,034**	**62,214,670**
P.E. Island	523,484	519,693	533,463	540,619	545,763	567,180
Nova Scotia	691,738	712,027	702,127	714,047	731,354	735,900
New Brunswick	900,033	891,631	889,277	900,376	908,659	911,490
Quebec	6,828,700	6,867,200	6,877,900	6,893,000	7,051,605	7,342,400
Ontario	10,364,317	10,434,401	10,305,045	10,357,960	10,020,294	10,009,200
Manitoba	5,941,065[2]	6,199,008	5,968,983	6,744,467	6,687,163	6,794,700
Saskatchewan	18,758,471[2]	19,388,609	19,527,971	21,063,678	22,420,232	22,868,300
Alberta	8,516,917[2]	10,705,948	10,971,761	11,727,830	12,432,595	12,561,400
British Columbia	358,398	379,319	395,783	409,834	409,369	424,100
	$	$	$	$	$	$
Canada	**1,098,303,938**	**1,104,983,100**	**1,173,133,600**	**1,125,003,600**	**948,981,400**	**631,592,900**
P.E. Island	15,416,800	17,079,500	13,420,800	12,444,000	16,940,400	10,973,000
Nova Scotia	18,885,400	22,648,600	18,597,000	18,824,000	20,945,000	16,646,500
New Brunswick	25,681,100	23,338,000	18,413,500	18,275,000	23,835,000	18,554,000
Quebec	150,253,000	139,263,000	144,273,000	130,363,000	153,664,000	120,366,000
Ontario	250,465,600	261,264,000	255,900,000	243,768,000	241,778,000	179,919,000
Manitoba	93,191,235[2]	111,937,000	82,280,000	113,492,000	78,919,000	52,463,000
Saskatchewan	368,274,521[2]	309,128,000	348,005,000	348,586,000	235,248,000	120,215,000
Alberta	157,227,282[2]	202,149,000	272,743,300	220,786,000	157,254,000	95,828,400
British Columbia	18,909,000	18,176,000	19,501,000	18,465,000	20,398,000	16,628,000

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[1] For earlier figures see pp. xxvi-xxvii of the introduction to this volume.

[2] As shown by the 1926 census of the Prairie Provinces.

5.—Field Crops of Canada, compared as to Quantity and Value, 1928 and 1929.

("000" omitted.)

Field Crop.	Actual Value, 1929.	Value at Prices of 1928.	Actual Value, 1928.	Increase (+) or Decrease (–).	Due to Higher (+) or Lower (–) Prices.	Due to Larger (+) or Smaller (–) Quantities.
	$	$	$	$	$	$
Fall wheat	25,450	23,579	23,009	+ 2,441	+ 1,871	+ 570
Spring wheat	294,265	221,532	428,226	– 133,961	+ 72,733	– 206,694
All wheat	319,715	245,111	451,235	– 131,520	+ 74,604	– 206,124
Fall rye	8,188	7,624	8,096	+ 92	+ 564	– 472
Spring rye	2,907	2,708	3,395	– 488	+ 199	– 687
All rye	11,095	10,332	11,491	– 396	+ 763	– 1,159
Oats	168,017	132,934	210,956	– 42,939	+ 35,083	– 78,022
Barley	60,505	57,295	76,112	– 15,607	+ 3,210	– 18,817
Peas	4,079	3,662	4,786	– 707	+ 417	– 1,124
Beans	4,920	5,323	4,184	+ 736	– 403	+ 1,139
Buckwheat	9,867	9,737	10,128	– 261	+ 130	– 391
Mixed grains	27,227	25,385	27,672	– 445	+ 1,842	– 2,287
Flaxseed	4,898	3,276	5,758	– 860	+ 1,622	– 2,482
Corn for husking	5,469	5,804	5,860	– 391	– 335	– 56
Potatoes	63,372	32,343	40,874	+ 22,498	+ 31,029	– 8,531
Turnips, mangolds, etc	19,062	17,027	20,700	– 1,638	+ 2,035	– 3,673
Hay and clover	184,528	164,188	171,225	+ 13,303	+ 20,340	– 7,037
Grain hay	25,287	21,157	40,540	– 15,253	+ 4,130	– 19,383
Alfalfa	23,183	21,120	23,138	+ 45	+ 2,063	– 2,018
Fodder corn	15,265	15,581	17,204	– 1,939	– 316	– 1,623
Sugar beets	2,492	2,639	3,140	– 648	– 147	– 501
Totals	**948,981**	**772,914**	**1,125,003**	**– 176,022**	**+ 176,067**	**– 352,089**
Increase or Decrease	....	....	....	– 15·6	+ 15·6	– 31·2

6.—Area, Yield, Quality and Value of Principal Field Crops in Canada, 1929, 1930 and Five-Year Average, 1925-1929.

Field Crop.	Area.	Yield per Acre.	Total Yield.	Weight per Measured Bushel.	Average Price per Bushel.	Total Value.
	acres.	bush.	bush.	lb.	$	$
Canada—						
Fall wheat..........1929	834,284	24·6	20,504,000	60·36	1·24	25,450,000
1930	815,000	25·8	21,022,000	60·39	0·68	14,302,000
Average..........1925-29	825,364	26·2	21,586,740	59·78	1·22	26,297,100
Spring wheat..........1929	24,420,718	11·6	284,016,000	60·80	1·04	294,265,000
1930	24,082,900	15·6	376,850,000	60·26	0·43	160,490,000
Average..........1925-29	22,278,583	18·4	409,117,600	59·71	1·00	409,442,540
All wheat..........1929	25,255,002	12·1	304,520,000	60·77	1·05	319,715,000
1930	24,897,900	16·0	397,872,000	60·27	0·44	174,792,000
Average..........1925-29	23,103,947	18·6	430,704,340	59·72	1·01	435,739,640
Oats..........1929	12,479,477	22·7	282,838,300	35·03	0·59	168,017,000
1930	13,258,700	31·9	423,148,000	35·35	0·24	102,919,000
Average..........1925-29	12,830,594	30·6	392,083,200	34·45	0·49	191,224,120
Barley..........1929	5,925,542	17·3	102,313,300	47·31	0·59	60,505,000
1930	5,558,700	24·3	135,160,200	47·22	0·20	27,254,000
Average..........1925-29	4,296,678	24·3	104,549,620	47·28	0·57	59,776,620
Fall rye..........1929	664,193	14·7	9,775,000	56·24	0·84	8,188,000
1930	1,091,000	15·0	16,321,000	55·73	0·19	3,182,000
Average..........1925-29	591,231	16·8	9,945,520	55·64	0·79	7,871,820
Spring rye..........1929	327,751	10·3	3,385,500	55·11	0·86	2,907,000
1930	357,050	16·0	5,697,500	55·69	0·21	1,219,500
Average..........1925-29	203,085	14·7	2,991,720	55·37	0·83	2,490,160
All rye..........1929	991,944	13·3	13,160,500	55·95	0·84	11,095,000
1930	1,448,050	15·2	22,018,500	55·72	0·20	4,401,500
Average..........1925-29	794,316	16·3	12,937,240	55·56	0·80	10,361,980
Peas..........1929	125,194	15·8	1,979,800	59·55	2·06	4,079,400
1930	129,410	18·3	2,370,600	59·79	1·47	3,487,000
Average..........1925-29	151,695	17·7	2,681,740	59·58	1·79	4,810,020
Beans..........1929	86,290	17·3	1,491,300	59·78	3·30	4,920,000
1930	98,680	14·6	1,438,600	59·68	2·27	3,261,400
Average..........1925-29	75,281	16·9	1,271,860	59·50	2·90	3,689,780
Buckwheat..........1929	515,976	20·3	10,470,100	47·60	0·94	9,867,000
1930	490,300	22·2	10,903,300	47·90	0·65	7,124,000
Average..........1925-29	484,302	21·8	10,537,500	47·40	0·90	9,456,920
Mixed grains..........1929	1,118,649	32·0	35,753,700	42·53	0·76	27,227,000
1930	1,201,400	36·9	44,276,000	42·62	0·42	18,435,000
Average..........1925-29	1,009,230	35·6	35,897,240	42·47	0·70	25,143,380
Flaxseed..........1929	382,359	5·4	2,060,400	55·56	2·38	4,898,000
1930	581,800	7·6	4,399,000	55·69	0·95	4,194,000
Average..........1925-29	563,443	8·1	4,558,240	55·33	1·73	7,889,500
Corn for husking..........1929	152,055	34·1	5,183,000	55·64	1·06	5,469,000
1930	161,400	36·1	5,826,000	55·41	0·87	5,054,000
Average..........1925-29	174,273	37·9	6,612,660	54·48	1·01	6,651,940
		cwt.	cwt.		per cwt.	
Potatoes..........1929	543,727	73·4	39,930,000	–	1·59	63,372,000
1930	571,300	84·4	48,241,000	–	0·83	39,858,000
Average..........1925-29	552,127	81·0	44,747,380	–	1·39	62,130,180
Turnips, mangolds, etc..........1929	205,455	176·3	36,228,000	–	0·53	19,062,000
1930	225,930	181·8	41,064,000	–	0·44	18,180,000
Average..........1925-29	200,434	187·2	37,519,800	–	0·52	19,541,680
		tons.	tons.		per ton.	
Hay and clover..........1929	10,560,101	1·50	15,833,000	–	11·65	184,528,000
1930	10,618,200	1·54	16,397,000	–	9·83	161,122,000
Average..........1925-29	10,037,392	1·57	15,747,640	–	10·95	172,389,480
Grain hay..........1929	1,647,095	1·27	2,099,000	–	12·05	25,287,000
1930	1,798,000	1·76	3,159,000	–	6·73	21,254,000
Average..........1925-29	1,645,451	2·34	3,842,800	–	10·12	38,875,400
Alfalfa..........1929	798,951	2·30	1,835,000	–	12·63	23,183,000
1930	744,000	2·20	1,640,000	–	12·12	19,877,000
Average..........1925-29	807,249	2·39	1,929,040	–	12·42	23,960,160
Fodder corn..........1929	422,848	7·86	3,322,300	–	4·59	15,265,000
1930	426,400	8·15	3,475,700	–	4·93	17,142,000
Average..........1925-29	473,018	8·34	3,943,540	–	4·52	17,831,020
Sugar beets..........1929	43,464	8·37	364,000	–	6·85	2,492,000
1930	52,500	8·97	471,000	–	6·87	3,238,000
Average..........1925-29	45,853	9·47	434,240	–	6·84	2,969,380

6A.—Area, Yield, Quality and Value of Principal Field Crops in Canada by Provinces, 1930, and Five-Year Average 1925-1929.

Field Crop.	Area.	Yield per Acre.	Total Yield.	Weight per Measured Bushel.	Average Price per Bushel.	Total Value.
	acres.	bush.	bush.	lb.	$	$
Prince Edward Island—						
Spring wheat.............1930	26,500	18·3	485,000	59·93	0·90	437,000
Average.............1925-29	28,922	17·2	498,060	58·99	1·48	738,400
Oats.............1930	174,700	32·7	5,712,000	35·67	0·32	1,828,000
Average.............1925-29	165,097	32·2	5,322,400	35·02	0·56	2,974,600
Barley.............1930	5,400	28·0	151,000	47·56	0·62	94,000
Average.............1925-29	5,206	27·3	142,200	48·50	0·92	130,800
Peas.............1930	280	20·0	5,600	60·00	1·75	10,000
Average.............1925-29	198	21·0	4,160	60·40	1·80	7,500
Buckwheat.............1930	2,700	27·0	73,000	48·23	0·65	47,000
Average.............1925-29	2,840	25·5	72,460	47·75	0·95	68,600
Mixed grains.............1930	30,600	37·3	1,141,000	41·72	0·38	434,000
Average.............1925-29	23,456	34·0	796,400	42·39	0·70	558,600
		cwt.	cwt.		per cwt.	
Potatoes.............1930	45,700	105·0	4,799,000	–	0·65	3,119,000
Average.............1925-29	42,437	105·6	4,481,600	–	1·15	5,143,600
Turnips, mangolds, etc......1930	13,500	300·0	4,050,000	–	0·35	1,418,000
Average.............1925-29	10,619	251·8	2,673,400	–	0·45	1,201,200
		tons.	tons.		per ton.	
Hay and clover.............1930	267,000	1·32	353,000	–	10·00	3,530,000
Average.............1925-29	253,165	1·52	385,800	–	10·92	4,214,400
Fodder corn.............1930	800	10·00	8,000	–	7·00	56,000
Average.............1925-29	666	8·59	5,720	–	3·95	22,600
Nova Scotia—		bush.	bush.		per bush.	
Spring wheat.............1930	5,800	17·9	104,000	58·96	1·00	104,000
Average.............1925-29	7,487	17·5	130,820	58·73	1·61	210,300
Oats.............1930	115,200	33·6	3,867,000	34·95	0·55	2,127,000
Average.............1925-29	112,333	33·2	3,725,200	33·87	0·82	3,037,500
Barley.............1930	10,800	28·7	309,500	47·81	0·70	217,000
Average.............1925-29	8,290	27·3	226,240	47·95	1·19	270,280
Spring rye.............1930	200	22·5	4,500	56·00	1·00	4,500
Average.............1925-29	137	17·8	2,440	56·00	1·33	3,240
Peas.............1930	800	18·8	15,000	57·46	2·00	30,000
Average.............1925-29	649	19·4	12,560	59·82	2·79	35,040
Beans.............1930	2,600	18·8	49,000	59·57	3·10	152,000
Average.............1925-29	2,032	16·0	32,500	59·55	3·92	127,400
Buckwheat.............1930	7,600	24·0	182,300	47·82	0·80	146,000
Average.............1925-29	7,480	22·1	165,440	47·28	1·15	189,640
Mixed grains.............1930	4,700	33·2	156,000	45·59	0·65	101,000
Average.............1925-29	4,380	33·0	144,520	44·93	1·06	152,600
		cwt.	cwt.		per cwt.	
Potatoes.............1930	31,200	107·0	3,338,000	–	0·80	2,670,000
Average.............1925-29	30,083	96·5	2,903,400	–	1·23	3,559,800
Turnips, mangolds, etc......1930	15,800	178·0	2,812,000	–	0·40	1,125,000
Average.............1925-29	14,976	225·9	3,383,200	–	0·60	2,044,200
		tons.	tons.		per ton.	
Hay and clover.............1930	540,000	1·59	859,000	–	11·50	9,879,000
Average.............1925-29	521,351	1·67	870,200	–	11·84	10,305,800
Fodder corn.............1930	1,200	11·00	13,000	–	7·00	91,000
Average.............1925-29	1,063	9·88	10,500	–	4·21	44,200
New Brunswick—		bush.	bush.		per bush.	
Spring wheat.............1930	9,900	18·8	186,000	59·94	1·00	186,000
Average.............1925-29	10,391	16·8	174,740	59·57	1·76	308,400
Oats.............1930	223,000	32·5	7,246,000	35·96	0·40	2,898,000
Average.............1925-29	211,848	28·4	6,017,100	34·20	0·71	4,277,800
Barley.............1930	10,800	29·7	320,700	49·29	0·60	192,000
Average.............1925-29	7,458	25·2	188,120	48·37	0·96	180,200
Spring rye.............1930	350	20·0	7,000	56·00	1·00	7,000
Average.............1925-29	402	16·4	6,580	56·00	1·39	9,120
Peas.............1930	1,880	20·0	38,000	60·40	2·10	80·000
Average.............1925-29	1,574	14·9	23,500	59·78	2·51	59,000
Beans.............1930	1,860	19·6	36,000	61·25	3·05	110,000
Average.............1925-29	1,443	15·9	22,980	60·60	3·86	88,600
Buckwheat.............1930	45,200	28·6	1,293,000	48·18	0·65	840,000
Average.............1925-29	44,504	22·8	1,016,180	47·82	0·90	911,800
Mixed grains.............1930	4,000	38·6	154,000	44·80	0·60	92,000
Average.............1925-29	3,225	28·8	92,900	44·53	0·92	85,800
		cwt.	cwt.		per cwt.	
Potatoes.............1930	48,000	121·9	5,853,000	–	0·65	3,804,000
Average.............1925-29	45,439	114·2	5,189,600	–	1·10	5,724,400
Turnips, mangolds, etc......1930	13,600	220·0	2,992,000	–	0·30	898,000
Average.............1925-29	12,778	207·8	2,655,600	–	0·46	1,211,600

6A.—Area, Yield, Quality and Value of Principal Field Crops in Canada by Provinces, 1930, and Five-Year Average 1925-1929—continued.

Field Crop.	Area.	Yield per Acre.	Total Yield.	Weight per Measured Bushel.	Average Price per Ton.	Total Value.
	acres.	tons.	tons.	lb.	$	$
New Brunswick—concluded—						
Hay and clover............1930	549,200	1·49	818,000	–	11·25	9,203,000
Average..............1925–29	555,515	1·44	802,200	–	11·13	8,924,600
Fodder corn..............1930	3,700	11·00	40,700	–	6·00	244,000
Average..............1925-29	3,419	9·30	31,800	–	4·00	127,200
Quebec—		bush.	bush.		per bush.	
Spring wheat..............1930	58,700	18·0	1,050,000	59·50	0·95	998,000
Average..............1925–29	61,653	17·1	1,051,400	58·71	1·72	1,807,600
Oats......................1930	1,899,800	26·6	50,635,000	35·53	0·47	23,798,000
Average..............1925–29	1,813,208	26·8	48,573,200	34·61	0·69	33,513,200
Barley....................1930	156,700	23·5	3,678,000	47·51	0·65	2,391,000
Average..............1925–29	131,003	23·3	3,058,600	47·24	1·06	3,230,200
Spring rye................1930	17,500	17·7	309,000	54·48	0·75	232,000
Average..............1925–29	12,131	16·6	201,100	56·19	1·50	301,400
Peas......................1930	38,200	14·6	556,000	59·65	2·10	1,168,000
Average..............1925–29	36,761	15·4	565,800	59·65	2·70	1,529,600
Beans.....................1930	24,100	17·3	416,000	59·43	2·50	1,040,000
Average..............1925–29	14,926	16·6	247,600	58·90	3·09	766,200
Buckwheat.................1930	156,900	23·2	3,635,000	47·71	0·73	2,654,000
Average..............1925–29	158,741	22·8	3,611,600	47·16	1·04	3,767,600
Mixed grains..............1930	143,700	26·1	3,752,000	43·92	0·65	2,439,000
Average..............1925–29	119,700	26·4	3,615,600	43·66	0·92	2,911,600
Flaxseed..................1930	5,300	9·6	51,000	55·10	2·15	110,000
Average..............1925–29	2,519	10·4	26,280	54·47	2·56	67,400
Corn for husking..........1930	31,400	21·6	677,000	55·81	1·00	677,000
Average..............1925–29	30,291	24·7	748,600	54·27	1·48	1,056,800
		cwt.	cwt.		per cwt.	
Potatoes..................1930	165,800	81·4	13,491,000	–	0·95	12,816,000
Average..............1925–29	160,682	85·1	13,666,600	–	1·58	21,630,400
Turnips, mangolds, etc......1930	59,300	182·8	10,840,000	–	0·50	5,420,000
Average..............1925–29	35,287	156·8	5,534,400	–	0·70	3,859,200
		tons.	tons.		per ton.	
Hay and clover............1930	4,500,000	1·50	6,771,000	–	9·25	62,635,000
Average..............1925–29	4,217,145	1·50	6,319,400	–	10·29	65,018,000
Alfalfa...................1930	14,200	2·18	31,000	–	12·50	388,000
Average..............1925–29	22,856	2·14	49,000	–	8·71	426,800
Fodder corn...............1930	70,800	8·47	600,000	–	6·00	3,600,000
Average..............1925–29	86,776	8·66	751,200	–	4·90	3,677,200
Ontario—		bush.	bush.		per bush.	
All wheat.................1930	776,000	26·1	20,226,000	60·16	0·72	14,563,000
Average..............1925–29	851,129	25·6	21,772,060	59·41	1·24	26,910,340
Oats......................1930	2,469,000	39·5	97,482,000	35·16	0·30	29,245,000
Average..............1925–29	2,670,746	36·2	96,567,500	32·92	0·53	51,013,020
Barley....................1930	610,000	34·3	20,911,000	48·24	0·39	8,155,000
Average..............1925–29	527,555	32·1	16,915,660	47·55	0·73	12,389,540
Fall rye..................1930	53,000	17·7	937,000	55·70	0·55	515,000
Average..............1925–29	75,132	17·5	1,315,720	55·87	0·91	1,194,220
Peas......................1930	80,000	19·8	1,581,000	59·80	1·25	1,976,000
Average..............1925–29	105,274	18·3	1,930,460	59·61	1·49	2,882,680
Beans.....................1930	68,000	13·3	905,000	59·69	2·10	1,901,000
Average..............1925–29	54,928	17·1	936,860	59·66	2·80	2,625,120
Buckwheat.................1930	275,000	20·6	5,676,000	47·96	0·60	3,406,000
Average..............1925–29	261,529	21·2	5,540,220	47·46	0·80	4,405,480
Mixed grains..............1930	958,000	39·2	37,512,000	42·52	0·40	15,005,000
Average..............1925–29	810,105	37·6	30,467,620	42·23	0·68	20,729,580
Flaxseed..................1930	5,200	9·8	51,000	56·40	1·45	74,000
Average..............1925–29	7,607	10·0	76,160	54·95	2·03	154,500
Corn for husking..........1930	130,000	39·6	5,149,000	55·33	0·85	4,377,000
Average..............1925–29	143,982	40·7	5,864,060	54·81	0·95	5,595,140
		cwt.	cwt.		per cwt.	
Potatoes..................1930	159,000	69·0	10,965,000	–	0·80	8,772,000
Average..............1925–29	161,361	60·7	9,796,580	–	1·50	14,713,780
Turnips, mangolds, etc......1930	105,000	172·6	18,125,000	–	0·40	7,250,000
Average..............1925–29	106,928	192·3	20,564,200	–	0·40	8,318,480
		tons.	tons.		per ton.	
Hay and clover............1930	3,329,000	1·58	5,263,000	–	10·25	53,946,000
Average..............1925–29	3,442,258	1·63	5,595,040	–	11·49	64,261,280
Alfalfa...................1930	642,000	2·20	1,410,000	–	11·75	16,568,000
Average..............1925–29	706,925	2·39	1,687,900	–	12·27	20,710,560
Fodder corn...............1930	312,000	8·39	2,619,000	–	4·50	11,786,000
Average..............1925–29	330,948	8·77	2,901,840	–	4·18	12,132,420
Sugar beets...............1930	38,000	8·90	340,000	–	7·00	2,380,000
Average..............1925–29	39,994	9·54	381,640	–	6·81	2,598,980

6A.—Area, Yield, Quality and Value of Principal Field Crops in Canada by Provinces, 1930, and Five-Year Average 1925-1929—continued.

Field Crop.	Area.	Yield per Acre.	Total Yield.	Weight per Measured Bushel.	Average Price per Bushel.	Total Value.
	acres.	bush.	bush.	lb.	$	$
Manitoba—						
Spring wheat 1930	2,470,000	18·3	45,278,000	59·56	0·51	23,092,000
Average 1925-29	2,228,876	17·3	38,495,600	58·93	1·06	40,681,000
Oats 1930	1,590,000	31·8	50,562,000	34·26	0·21	10,618,000
Average 1925-29	1,567,806	27·1	42,553,600	33·50	0·43	18,503,200
Barley 1930	1,991,000	25·1	49,974,000	46·68	0·17	8,496,000
Average 1925-29	1,807,475	23·9	43,179,400	47·00	0·54	23,120,000
Fall rye 1930	83,000	18·5	1,536,000	56·01	0·23	353,000
Average 1925-29	141,191	15·3	2,165,000	55·73	0·79	1,702,400
Spring rye 1930	30,000	17·2	516,000	55·84	0·23	119,000
Average 1925-29	22,930	14·1	323,200	55·20	0·79	254,600
All rye 1930	113,000	18·2	2,052,000	55·96	0·23	472,000
Average 1925-29	164,121	15·2	2,488,200	55·58	0·79	1,957,000
Peas 1930	1,300	17·0	22,000	60·67	1·05	23,000
Average 1925-29	1,196	21·6	25,860	59·02	1·66	42,800
Buckwheat 1930	2,900	15·1	44,000	48·00	0·70	31,000
Average 1925-29	9,208	14·3	131,600	47·93	0·86	13,800
Mixed grains 1930	14,500	23·9	347,000	42·00	0·23	80,000
Average 1925-29	10,434	23·5	245,000	43·79	0·57	139,200
Flaxseed 1930	112,000	9·7	1,086,000	55·49	1·05	1,140,000
Average 1925-29	116,149	9·7	1,124,680	55·48	1·73	1,947,600
		cwt.	cwt.		per cwt.	
Potatoes 1930	31,700	83·8	2,657,000	–	0·65	1,727,000
Average 1925-29	29,111	74·2	2,161,400	–	1·11	2,401,000
Turnips, mangolds, etc 1930	4,800	97·9	466,000	–	0·65	303,000
Average 1925-29	3,813	95·5	364,200	–	0·79	287,800
		tons.	tons.		per ton	
Hay and clover 1930	437,300	1·80	787,000	–	7·25	5,706,000
Average 1925-29	314,315	1·76	554,200	–	9·00	4,988,800
Alfalfa 1930	12,200	2·07	25,000	–	10·00	250,000
Average 1925-29	9,265	1·96	18,160	–	12·17	221,000
Fodder corn 1930	14,000	5·40	75,000	–	7·00	525,000
Average 1925-29	16,157	5·03	81,280	–	6·64	539,800
Saskatchewan—		bush.	bush.		per bush	
Spring wheat 1930	14,326,000	13·7	196,322,000	60·10	0·42	82,455,000
Average 1925-29	13,456,553	17·7	237,879,660	59·64	1·00	237,828,400
Oats 1930	4,531,000	27·7	125,509,000	35·24	0·15	18,826,000
Average 1925-29	4,140,079	28·0	116,000,600	34·82	0·41	47,657,600
Barley 1930	2,016,000	20·1	40,522,000	46·78	0·12	4,863,000
Average 1925-29	1,301,308	21·8	28,429,200	47·30	0·50	14,355,600
Fall rye 1930	818,000	14·5	11,861,000	55·67	0·17	2,016,000
Average 1925-29	291,361	17·8	5,182,400	55·45	0·77	3,999,200
Spring rye 1930	192,000	15·7	3,014,000	55·62	0·17	512,000
Average 1925-29	102,490	15·0	1,533,200	54·86	0·77	1,179,400
All rye 1930	1,010,000	14·7	14,875,000	55·66	0·17	2,528,000
Average 1925-29	393,851	17·1	6,715,600	55·33	0·77	5,178,600
Peas 1930	1,650	15·8	26,000	60·00	1·10	29,000
Average 1925-29	1,644	15·8	26,000	59·60	1·83	47,600
Beans 1930	1,020	11·5	12,000	60·00	2·00	24,000
Average 1925-29	860	13·0	11,200	59·60	2·52	28,200
Mixed grains 1930	23,000	20·8	478,000	40·94	0·20	96,000
Average 1925-29	21,461	23·1	495,800	43·60	0·50	246,200
Flaxseed 1930	431,000	7·0	3,017,000	55·79	0·89	2,685,000
Average 1925-29	424,102	7·6	3,220,600	55·29	1·72	5,534,600
		cwt.	cwt.		per cwt.	
Potatoes 1930	41,800	68·7	2,872,000	–	0·81	2,326,000
Average 1925-29	38,879	67·1	2,609,200	–	1·25	3,269,200
Turnips, mangolds, etc 1930	3,830	60·7	232,000	–	0·75	174,000
Average 1925-29	2,436	69·5	169,400	–	1·19	201,800
		tons.	tons		per ton.	
Hay and clover 1930	460,900	1·51	696,000	–	8·25	5,742,000
Average 1925-29	317,434	1·53	484,400	–	9·08	4,400,400
Alfalfa 1930	11,400	1·94	22,000	–	12·00	264,000
Average 1925-29	6,052	1·98	11,980	–	13·14	157,400
Fodder corn 1930	10,700	2·71	29,000	–	7·00	203,000
Average 1925-29	15,623	2·65	41,400	–	8·41	348,000
Alberta—		bush.	bush.		per bush.	
Fall wheat 1930	124,000	21·5	2,660,000	61·50	0·39	1,037,000
Average 1925-29	72,244	22·8	1,647,000	60·51	0·99	1,623,600
Spring wheat 1930	7,040,000	18·5	130,240,000	60·79	0·39	50,794,000
Average 1925-29	6,331,575	20·2	127,706,600	60·35	0·97	123,840,400
All wheat 1930	7,164,000	18·6	132,900,000	60·80	0·39	51,831,000
Average 1925-29	6,403,819	20·2	129,353,600	60·35	0·97	125,464,000

6A.—Area, Yield, Quality and Value of Principal Field Crops in Canada by Provinces, 1930, and Five-Year Average 1925-1929—concluded.

Field Crop.	Area.	Yield per Acre.	Total Yield.	Weight per Measured Bushel.	Average Price per Bushel.	Total Value.
	acres.	bush.	bush.	lb.	$	$
Alberta—concluded.						
Oats 1930	2,165,000	36·0	77,940,000	36·33	0·15	11,691,000
Average 1925–29	2,064,294	33·7	69,518,800	35·97	0·40	27,755,400
Barley 1930	748,000	25·4	18,999,000	48·40	0·14	2,660,000
Average 1925–29	500,342	24·3	12,156,400	47·56	0·48	5,868,600
Fall rye 1930	137,000	14·5	1,987,000	55·86	0·15	298,000
Average 1925–29	83,547	15·3	1,282,400	55·98	0·76	976,000
Spring rye 1930	110,000	15·7	1,727,000	55·89	0·15	259,000
Average 1925–29	58,056	13·9	804,400	55·73	0·76	614,000
All rye 1930	247,000	15·0	3,714,000	55·88	0·15	557,000
Average 1925–29	141,603	14·7	2,086,800	55·85	0·76	1,590,000
Peas 1930	1,300	16·0	21,000	60·00	1·10	23,000
Average 1925–29	1,376	15·3	21,000	60·40	1·89	39,600
Beans 1930	300	12·0	3,600	60·00	1·50	5,400
Average 1925–29	339	12·7	4,320	60·00	2·42	10,460
Mixed grains 1930	17,900	31·3	560,000	42·63	0·17	95,000
Average 1925–29	11,806	27·2	320,600	43·32	0·53	170,800
Flaxseed 1930	28,000	6·8	190,000	55·20	0·95	181,000
Average 1925–29	12,211	8·1	98,400	55·70	1·68	165,600
		cwt.	cwt.		per cwt.	
Potatoes 1930	30,100	84·0	2,536,000	–	0·80	2,029,000
Average 1925–29	26,316	81·0	2,130,400	–	1·26	2,683,800
Turnips, mangolds, etc 1930	3,100	101·2	314,000	–	0·75	236,000
Average 1925–29	6,608	116·1	767,000	–	1·34	1,024,400
		tons.	tons.		per ton.	
Hay and clover 1930	351,800	1·47	517,000	–	9·00	4,653,000
Average 1925–29	245,456	1·53	374,800	–	11·29	4,231,000
Grain hay 1930	1,750,000	1·75	3,063,000	–	6·50	19,910,000
Average 1925–29	1,587,593	2·34	3,712,200	–	9·98	37,062,600
Alfalfa 1930	33,200	2·10	70,000	–	13·00	910,000
Average 1925–29	38,280	2·46	94,000	–	13·20	1,240,400
Fodder corn 1930	7,200	3·75	27,000	–	7·00	189,000
Average 1925–29	11,834	3·94	46,600	–	7·09	330,600
Sugar beets 1930	14,500	9·00	131,000	–	6·55	858,000
Average 1925–29	5,859	8·98	52,600	–	7·04	370,400
British Columbia—		bush.	bush.		per bush.	
Fall wheat 1930	14,000	22·5	315,000	60·03	0·86	271,000
Average 1925–29	14,957	26·3	393,000	60·11	1·32	518,600
Spring wheat 1930	47,000	21·4	1,006,000	59·76	0·85	855,000
Average 1925–29	40,160	23·8	955,400	59·64	1·33	1,272,600
All wheat 1930	61,000	21·7	1,321,000	59·82	0·85	1,126,000
Average 1925–29	55,117	24·5	1,348,400	59·85	1·33	1,791,200
Oats 1930	91,000	46·1	4,195,000	35·34	0·45	1,888,000
Average 1925–29	85,183	44·7	3,804,800	35·88	0·65	2,491,800
Barley 1930	10,000	29·5	295,000	47·57	0·63	186,000
Average 1925–29	8,041	31·6	253,800	48·32	0·91	231,400
Spring rye 1930	7,000	17·1	120,000	55·60	0·72	86,000
Average 1925–29	6,939	17·4	120,800	56·12	1·06	128,400
Peas 1930	4,000	26·4	106,000	60·14	1·40	148,000
Average 1925–29	3,023	23·9	72,400	59·80	2·30	166,200
Beans 1930	800	21·8	17,000	60·00	1·70	29,000
Average 1925–29	753	21·8	16,400	60·00	2·67	43,800
Mixed grains 1930	5,000	35·2	176,000	44·40	0·53	93,000
Average 1925–29	4,663	36·2	168,800	44·44	0·88	149,000
Flaxseed 1930	300	14·0	4,000	55·00	1·05	4,000
Average 1925–29	855	14·2	12,120	57·75	1·63	19,800
		cwt.	cwt.		per cwt.	
Potatoes 1930	18,000	96·1	1,730,000	–	1·50	2,595,000
Average 1925–29	17,819	101·5	1,808,600	–	1·66	3,004,200
Turnips, mangolds, etc 1930	7,000	176·0	1,233,000	–	1·10	1,356,000
Average 1925–29	6,989	201·5	1,408,400	–	0·99	1,393,000
		tons.	tons.		per ton.	
Hay and clover 1930	183,000	1·82	333,000	–	17·50	5,828,000
Average 1925–29	170,753	2·12	361,600	–	16·72	6,045,200
Grain hay 1930	48,000	2·00	96,000	–	14·00	1,344,000
Average 1925–29	57,858	2·26	130,600	–	13·88	1,812,800
Alfalfa 1930	31,000	2·64	82,000	–	18·25	1,497,000
Average 1925–29	23,871	2·85	68,000	–	17·71	1,204,000
Fodder corn 1930	6,000	10·71	64,000	–	7·00	448,000
Average 1925–29	6,532	11·21	73,200	–	8·32	609,000

Acreages under Pasture.—Table 7 gives the estimated acreages under pasture in Canada, by provinces, for the years 1924 to 1930.

7.—Estimated Acreages under Pasture in Canada, 1924-1930.

Province.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	acres.	acres.	acres.	acres.	acres.	acres.	acres.
P.E. Island	248,760	237,450	242,157	249,637	250,092	244,729	246,592
Nova Scotia	829,097	842,695	870,305	843,766	866,100	866,204	866,818
New Brunswick	470,455	481,488	467,081	492,425	500,772	487,840	490,500
Quebec	3,600,000	3,636,000	3,672,360	3,745,807	3,858,181	3,944,443	3,950,000
Ontario	3,317,532	3,193,941	3,077,424	3,012,786	3,000,172	3,134,614	3,149,460
Manitoba	240,001	238,483	222,039	240,485	252,689	253,950	264,300
Saskatchewan	333,393	333,393	382,403	426,927	408,670	406,100	419,000
Alberta	230,725	309,589	288,962	285,719	289,973	319,338	396,400
British Columbia	71,756	63,484	53,719	56,141	62,192	63,865	66,604
Indian Reserves	35,992	28,111	31,990	36,601	39,202	47,237	39,839
Totals	**9,377,711**	**9,364,634**	**9,308,440**	**9,390,294**	**9,528,043**	**9,768,320**	**9,889,513**

The above figures are not entirely comprehensive since the figures for the four western provinces are "seeded pasture" only. Most of the area used for pasture in these provinces is "natural" and data on land used in this way can only be properly secured by the quinquennial census. At the 1926 census, the acreages of improved and natural pasture in the three Prairie Provinces were as follows:—

Province.	Improved Pasture.	Natural Pasture.
	acres.	acres.
Manitoba	311,818	3,553,590
Saskatchewan	305,164	13,612,460
Alberta	302,417	12,210,315

The figures for the Maritime Provinces, Quebec and Ontario include all pasture, seeded and natural.

The area under grazing leases in the Western Provinces as at March 31, 1930, is reported by the Dominion Lands Administration Branch of the Department of the Interior as follows:—

Province.	Number of Leases.	Acres.
Manitoba	244	95,885
Saskatchewan	6,952	3,463,408
Alberta	3,917	3,208,289
British Columbia	366	453,752
Totals	**11,479**	**7,221,334**

Average Yields per Acre.—Table 8 gives for the years 1923 to 1930 the average yields per acre of the various field crops, together with the 10-year average yields for the period 1920-1929.

8.—Annual Average Yields per Acre of Field Crops for Canada from 1923 to 1930, with Decennial Averages for the years 1920-1929.

Field Crop.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	Ten-year Average 1920–29.
	bush.	bush.	bush.	bush.	bush.	bush.	bush.	bush.	bush.
Canada—									
Fall wheat	23·8	28·8	30·1	25·8	26·1	24·5	24·6	25·8	25·0
Spring wheat	21·6	11·3	18·6	17·5	21·2	23·5	11·6	15·6	16·9
All wheat	21·7	11·9	19·0	17·8	21·4	23·5	12·1	16·0	17·2
Oats	39·3	28·0	32·0	30·1	33·2	34·4	22·7	31·9	31·2
Barley	27·8	26·1	24·7	27·4	27·7	27·9	17·3	24·3	24·8
Rye	16·0	15·5	14·2	16·2	20·9	17·4	13·3	15·2	16·1
Peas	17·0	18·0	18·6	18·2	18·5	16·8	15·8	18·3	17·4
Beans	16·5	16·6	18·4	16·2	15·5	16·7	17·3	14·6	16·9
Buckwheat	22·3	25·8	22·2	21·6	23·1	21·7	20·3	22·2	22·5
Mixed grains	35·3	37·7	38·5	35·5	37·5	35·3	32·0	36·9	35·2
Flaxseed	11·3	7·6	7·4	8·1	10·3	9·6	5·4	7·6	7·8
Corn for husking	42·8	40·7	44·2	37·3	32·4	37·7	34·1	36·1	42·5
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
Potatoes	99·0	100·9	77·0	89·7	81·2	83·8	73·4	84·4	88·6
Turnips, etc	196·0	205·1	182·2	172·9	188·9	215·5	176·3	181·8	191·0
	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.
Hay and clover	1·6	1·5	1·6	1·5	1·7	1·6	1·5	1·5	1·47
Fodder corn	8·1	8·0	9·1	8·8	7·5	8·3	7·9	8·2	8·73
Sugar beets	9·6	9·3	10·6	11·2	8·9	8·4	8·4	9·0	9·63
Alfalfa	2·7	2·7	2·5	2·5	2·4	2·4	2·3	2·2	2·45

Grain Yields of the Prairie Provinces.—Final estimates of the acreages and yields of the grain crops of the three Prairie Provinces (Manitoba, Saskatchewan and Alberta) are given for 1930 in Table **9**, together with comparative data for 1928 and 1929.

9.—Areas and Yields of Wheat, Oats, Barley, Rye and Flaxseed in the Prairie Provinces, 1928-30.

Province and Crop.	1928.	1929.	1930.	1928.	1929.	1930.
	acres.	acres.	acres.	bush.	bush.	bush.
Three Prairie Provinces—						
Wheat	23,158,505	24,297,116	23,960,000	544,598,000	281,664,000	374,500,000
Oats	8,157,411	7,731,937	8,286,000	297,676.000	141,620,000	254,011,000
Barley	4,104,250	5,114,203	4,755,000	112,684,000	79,787,000	109,495,000
Rye	753,915	922,217	1,370,000	13,158.000	11,982,000	20,641,000
Flaxseed	367,385	373,415	571,000	3,519,400	1,970,000	4,293,000
Manitoba—						
Wheat	2,660,125	2,300,615	2,470,000	52,383,000	28,565,000	45,278,000
Oats	1,458,401	1,558,404	1,590,000	53,376,000	30,740,000	50,562,000
Barley	1,937,263	2,181,895	1,991,000	52,569,000	36,518,000	49,974,000
Rye	120,222	85,040	113,000	2,066,000	1,309,000	2,052,000
Flaxseed	81,789	62,474	112,000	804,400	445,000	1,086,000
Saskatchewan—						
Wheat	13,790,854	14,445,286	14,326,000	321,215.000	160,565.000	196.322,000
Oats	4,358,747	4,255,789	4,531,000	156,043,000	68,944.000	125,509.000
Barley	1,621,463	2,228,604	2,016,000	44,266,000	30,755.000	40,522,000
Rye	471,073	641,638	1,010,000	8,412,000	8,301,000	14,875,000
Flaxseed	279,414	298,302	431,000	2,654,000	1,462,000	3,017,000
Alberta—						
Wheat	6,707,526	7,551,215	7,164,000	171,000,000	92,534,000	132,900,000
Oats	2,340,263	1,917,744	2,165,000	88,257,000	41,936,000	77,940,000
Barley	545,524	703,704	748,000	15,849,000	12,514,000	18,999,000
Rye	162,620	195,539	247,000	2,680,000	2,372.000	3,714,000
Flaxseed	6,182	12,639	28,000	61,000	63,000	190,000

Quality of Grain Crops.—Table **10** gives for Canada and the provinces the percentages of the total yields of the principal field crops which proved to be of merchantable quality in the years 1925-29.

10.—Percentages of Total Yields of Principal Field Crops found to be of Merchantable Quality for Canada and by Provinces, 1925-29.

Province and Crop.	1925	1926	1927	1928	1929	Province and Crop.	1925	1926	1927	1928	1929
	p.c.	p.c.	p.c.	p.c.	p.c.		p.c.	p.c.	p.c.	p.c.	p.c.
Canada—						**Ontario—**					
Wheat	97	95	94	95	98	Wheat	94	90	90	90	92
Oats	94	87	87	90	92	Oats	94	79	88	86	90
Barley	95	93	93	95	93	Barley	93	91	95	91	91
Potatoes	81	81	78	79	83	Potatoes	79	74	77	73	83
Hay and clover	89	86	85	86	92	Hay and clover	88	87	86	82	92
P. E. Island—						**Manitoba—**					
Wheat	93	91	74	93	92	Wheat	96	96	88	95	99
Oats	89	92	76	95	97	Oats	94	93	60	93	94
Barley	95	92	87	94	96	Barley	94	94	90	97	95
Potatoes	72	85	76	84	84	Potatoes	89	91	87	86	89
Hay and clover	92	96	90	95	97	Hay and clover	93	86	90	90	93
Nova Scotia—						**Saskatchewan—**					
Wheat	88	87	82	90	87	Wheat	98	97	94	96	98
Oats	89	86	79	91	89	Oats	95	92	88	94	92
Barley	88	83	85	93	92	Barley	97	92	95	95	92
Potatoes	78	85	69	82	85	Potatoes	89	82	90	90	80
Hay and clover	89	92	83	92	92	Hay and clover	93	88	92	95	91
New Brunswick—						**Alberta—**					
Wheat	94	90	80	91	87	Wheat	97	93	95	93	98
Oats	95	85	83	90	92	Oats	95	86	93	91	95
Barley	94	93	87	94	94	Barley	96	91	95	92	95
Potatoes	77	87	71	86	87	Potatoes	90	89	90	87	84
Hay and clover	90	84	88	88	92	Hay and clover	92	90	91	95	94
Quebec—						**British Columbia—**					
Wheat	92	91	86	83	91	Wheat	95	94	95	94	94
Oats	92	85	83	77	88	Oats	90	93	93	93	94
Barley	93	91	89	86	92	Barley	91	93	95	93	94
Potatoes	81	79	74	74	81	Potatoes	86	82	86	81	85
Hay and clover	90	83	82	85	91	Hay and clover	95	94	90	94	95

Stocks of Grain in Canada.—Table **11** shows the quantities of grain in farmers' hands on July 31, 1930, as compared with July 31, 1928 and 1929. Adding the stocks in the elevators and flour mills, Table **12** shows the total quantities of grain in store at the close of each of the crop years ended July 31, 1928, 1929 and 1930.

11.—Stocks of Grain in Farmers' Hands on July 31, 1930, as Compared with July 31, 1928 and 1929, with Total Production for the Previous Years.

Kind of Grain.	Total Production in 1927.	In Farmers' Hands, July 31, 1928.		Total Production in 1928.	In Farmers' Hands, July 31, 1929.		Total Production in 1929.	In Farmers' Hands, July 31, 1930.	
	000 bush.	p.c.	bush.	000 bush.	p.c.	bush.	000 bush.	p.c.	bush.
Wheat	479,665	0·87	4,185,000	566,726	0·99	5,617,400	304,520	1·75	5,326,000
Barley	96,938	1·71	1,657,000	136,391	2·34	3,190,400	102,313	2·98	3,050,000
Oats	439,713	4·68	20,565,600	452,153	5·86	26,478,000	282,838	4·25	12,020,000
Rye	14,951	0·84	125,000	14,618	0·64	93,400	13,161	1·26	166,000
Flaxseed	4,885	0·11	5,500	3,614	0·14	5,200	2,060	0·17	3,600

12.—Stocks of Grain in Canada on July 31, 1928, 1929 and 1930.

Disposition of Grain.	Wheat.			Barley.		
	July 31, 1928.	July 31, 1929.	July 31, 1930.	July 31, 1928.	July 31, 1929.	July 31, 1930.
	bush.	bush.	bush.	bush.	bush.	bush.
Farmers' hands	4,186,000	5,617,400	5,326,000	1,657,000	3,190,400	3,050,000
Country, private and mfg. elevators in West	4,681,716	6,324,788	16,820,322	689,156	1,177,615	2,671,951
Terminal elevators in Western Inspection Division	30,379,543	55,945,117	47,892,399	574,981	4,145,135	13,818,834
Public elevators in East	18,509,083	20,369,859	21,374,632	122,663	1,913,220	1,856,514
Flour mills (estimated)	6,142,019	7,456,894	6,548,711	30,396	48,084	1,471,070
Transit	13,727,710	8,669,163	12,779,166	385,497	546,403	1,383,251
Totals	**77,626,071**	**104,383,221**	**110,741,230**	**3,459,693**	**11,020,857**	**24,251,620**
	Oats.			**Rye.**		
Farmers' hands	20,565,600	26,478,000	12,020,000	125,000	93,400	166,000
Country, private and mfg. elevators in West	1,540,680	3,016,588	2,581,324	86,323	171,695	543,093
Terminal elevators	2,266,165	8,453,122	1,802,928	788,220	1,995,256	5,416,868
Public elevators in East	1,911,906	4,487,037	2,785,443	505,589	1,265,950	1,561,892
Flour mills (estimated)	792,777	1,215,228	94,832	4,000	3,038	1,646
Transit	1,527,832	1,515,832	922,015	575,483	693,455	1,501,206
Totals	**28,604,960**	**45,165,498**	**20,203,59**	**2,084,615**	**4,222,794**	**9,190,705**
				Flaxseed.		
Farmers' hands				5,500	5,200	3,600
Country, private and mfg. elevators in West				79,596	73,554	48,853
Terminal elevators				1,038,299	375,409	486,895
Public elevators in East				–	17,624	–
Transit				172,952	89,700	97,310
Totals				**1,296,347**	**561,487**	**636,658**

Distribution of Wheat and Oat Crops.—The distribution of the wheat crop of Canada for the years ended July 31, 1929 and 1930, is calculated in Table **13.**

13.—Distribution of the Canadian Wheat Crops, by crop years, 1928-29 and 1929-30.

NOTE.—Flour is expressed as wheat on the basis of one barrel of flour, weighing 196 lb., being equal to 4½ bushels of wheat. For similar calculations extending over a series of years both for wheat and oats, see the Year Book 1920, pp. 263-266, and the April issues of the Monthly Bulletin of Agricultural Statistics for each of the years 1920 to 1930.

Item.	Crop year ended July 31, 1929.	Crop year ended July 31, 1930.	Item.	Crop year ended July 31, 1929.	Crop year ended July 31, 1930.
	000 bush.	000 bush.		000 bush.	000 bush.
Carry-over Aug. 1, 1928; Aug. 1, 1929	77,626	104,383	Exports as grain	354,425	155,766
Gross production	566,726	304,520	Exports as flour	53,139	30,501
Loss in cleaning	12,808	6,730	Total exports	407,564	186,267
Grain not merchantable	29,641	7,172	Retained as seed	44,196	43,571
Net production	524,277	290,618	Milled for food	44,083	44,705
Imports	1,346	1,386	Carried over July 31, 1929 and July 31, 1930	104,383	110,741
Available for distribution	603,249	396,387	Balance fed on farms or otherwise disposed of	3,023	11,103

Table **14** presents similar data for oats. The bulk of this crop is consumed as food for live stock, and the table shows approximately how the remaining portion of the crop is disposed of, including the quantities exported as grain, oatmeal and rolled oats, the quantity retained for seed and the quantity milled for home consumption, representing chiefly oatmeal and rolled oats used for human food. The carry-over represents grain in the elevators, in farmers' hands, in transit, etc., and the balance is the quantity used in Canada for feeding to live stock, this amount being estimated at 303,262,000 bushels in 1924-25, 394.997,000 bushels in 1925-26, 308.431,000 bushels in 1926-27, 321,753,000 bushels in 1927-28, 339,207,000 bushels in 1928-29, and 245,464,000 bushels in 1929-30.

14.—Distribution of the Canadian Oat Crops, by crop years, 1928-29 and 1929-30.

Item.	Crop year ended July 31, 1929.	Crop year ended July 31, 1930.	Item.	Crop year ended July 31, 1929.	Crop year ended July 31, 1930.
	000 bush.	000 bush.		000 bush.	000 bush.
Carry-over, Aug. 1, 1928; Aug. 1, 1929	28,605	45,165	Exports as meal, etc.	3,481	2,075
Gross production	452,153	282,838	Total exports	16,309	4,075
Grain not merchantable	45,114	23,980	Retained as seed	32,840	33,146
Net production	407,039	258,858	Milled for home consumption	5,764	8,046
Imports	3,641	3,476	Carried over July 31, 1929, July 31, 1930	45,165	21,582
Available for distribution	439.285	307,499	Balance for home consumption as grain	339,207	240,648
Exports as grain	12,828	2,000			

Per Capita Consumption of Wheat in Canada.—According to calculations published in the Monthly Bulletin of Agricultural Statistics for April, 1930 (p. 108), the average per capita consumption of wheat ground for human food in Canada during the ten years 1920 to 1929 was 4·7 bushels. The lowest average was 4·2 bushels in 1922 and the highest 6·7 bushels in 1920. In the last named year, however, the grinding did not represent the year's consumption, but included a large carry-over into the next year. The average consumption in 1929 was estimated at 4·5 bushels. Details for the years 1919-27 were given at p. 241 of the 1929 Year Book.

Subsection 3.—Farm Live Stock and Poultry.

The growth of the live-stock and poultry industries in Canada from decade to decade is indicated in summary statistical form in Table **15**, while some authoritative details will be found in the article, "The Development of Agriculture in Canada", contributed by Dr. J. H. Grisdale to the 1921 Year Book, where it appears at pp. 202-210.

15.—Summary Statistics of the Numbers of Live Stock and Poultry in the Dominion of Canada, Censuses of 1871-1921.

Item.	1871.	1881.	1891.	1901.	1911.	1921.[2]
	No.	No.	No.	No.	No.	No.
Horses	836,743	1,059,358	1,470,572	1,577,493	2,598,958	3,610,494
Cattle	2,624,290	3,433,989	4,120,586	5,576,451	6,526,083	8,519,484
Sheep	3,155,509	3,048,678	2,563,781	2,510,239	2,174,300	3,203,966
Swine	1,366,083	1,207,619	1,733,850	2,353,828	3,634,778	3,040,730
All poultry	–	–	14,105,102[1]	17,922,658	31,793,261	50,325,248
Hens and chickens	–	–	12,696,701	16,651,337	29,773,457	48,021,647
Turkeys	–	–	458,306	584,569	863,182	1,096,721
Ducks	–	–	320,169	290,755	527,098	603,152
Geese	–	–	537,932	395,997	629,524	603,728
Hives of bees	144,791	–	199,288	189,986	180,372	185,530

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[1] Includes 91,994 unspecified. [2] Includes live stock elsewhere than on farms as follows:—horses 158,742, cattle 149,995, sheep 3,499, swine 80,439, poultry 6,978,054, hives 37,425.

16.—Estimated Numbers and Values of Farm Live Stock in Canada, by Provinces, 1927-1930.

Province and Item.	1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.
	No.	No.	No.	No.	000 $	000 $	000 $	000 $
Canada—								
Horses	3,421,857	3,376,394	3,376,487	3,295,000	260,476	255,469	235,971	202,013
Milch cows	3.883,229	3,782,012	3.684,766	3,683.000	236,071	271,567	273,817	218,822
Other cattle	5.266,434	4,989,647	5.139,866	5.254,000	204.558	231,287	239,713	182,263
Total cattle	9.149,663	8,771,659	8.824,632	8,937,000	440,629	502,854	513,530	401,085
Sheep	2,362,706	3,415,788	3,635,923	3,696,000	32,004	35,530	36,118	25,275
Swine	4,694,789	4,497,367	4,381,725	4,000,000	65,116	66.595	71,111	58,852
Totals	–	–	–	–	**798,225**	**860,448**	**856,730**	**687,225**
P.E. Island—								
Horses	32,890	33.695	33,241	35,570	2,993	3,401	3,202	3,272
Milch cows	47,126	46,439	44,728	43,200	2,403	2,989	2,728	2,290
Other cattle	48,874	49,061	51,881	56,300	1,564	1,717	1,920	1,802
Total cattle	96,000	95,500	96,609	99,500	3,967	4,706	4,648	4,092
Sheep	89,606	97,082	97,367	87,000	781	962	844	609
Swine	53,665	52,653	54,285	54,000	790	833	894	864
Totals	–	–	–	–	**8,531**	**9,902**	**9,588**	**8,837**
Nova Scotia—								
Horses	52,310	50,929	52,104	51,530	5,592	5,675	5,321	5,050
Milch cows	142,762	137,867	141,207	140,000	7,210	8,343	8,324	7,280
Other cattle	140,219	131,925	145,199	144,900	4,046	4,885	5,510	4,637
Total cattle	282,981	269,792	286,406	284,900	11,256	13,228	13,834	11,917
Sheep	257,215	270,461	277,761	289,600	1,889	2,034	2,020	1,738
Swine	50,923	55,184	47,458	43,600	893	954	901	741
Totals	–	–	–	–	**19,630**	**21,891**	**22,076**	**19,446**
New Brunswick—								
Horses	51,342	51,713	50,199	49,800	5,956	6,208	5,723	5,030
Milch cows	111,304	109,068	105,667	107.300	5,120	5,924	6,129	5,258
Other cattle	105,375	106,085	109,919	121,700	2,857	3,232	3,517	3,651
Total cattle	216,679	215,153	215,586	229,000	7,977	9,156	9,646	8,909
Sheep	153,057	160,514	151,257	153,300	1,129	1,294	1,210	920
Swine	77,307	76,072	66,467	67,400	1,530	1,695	1,396	1.213
Totals	–	–	–	–	**16,592**	**18,353**	**17,975**	**16,072**
Quebec—								
Horses	348,566	351,206	369,060	367,200	37,098	38,018	39,084	34,708
Milch cows	1,092,314	1,114,467	1.055,770	1,023,700	59,415	71,598	73,904	55,302
Other cattle	849,770	849,879	953,627	995.000	24,643	29,210	36,466	29,611
Total cattle	1,942,084	1,964,346	2,009,397	2,018,700	84,058	100,808	110,370	84,913
Sheep	861,518	863,757	865,000	870,800	7,683	8,272	7,785	5,609
Swine	833,529	813,309	803,644	702,800	14,032	14,669	15,213	11,240
Totals	–	–	–	–	**142,871**	**161,767**	**172,452**	**136,470**
Ontario—								
Horses	617,136	609,249	606,505	606,700	62,231	60,368	57,277	49,151
Milch cows	1,299,840	1,261,384	1,237,248	1,222,500	95,698	106,153	105,109	80,919
Other cattle	1,415,114	1,420,669	1,434,346	1.453,100	67,925	76,959	76,099	56,671
Total cattle	2,714,954	2,682,053	2,671,594	2.675,600	163,623	183,112	181,208	137,590
Sheep	956,267	1,014,106	1,130,395	1,134,400	11,238	12,320	13,355	8.795
Swine	1,883,177	1,833,538	1,681,263	1,661,500	24,481	24,943	25,880	22,857
Totals	–	–	–	–	**261,673**	**280,743**	**277,720**	**218,393**
Manitoba –								
Horses	346,431	351,464	361,111	359,900	26,506	26,354	23,084	18,784
Milch cows	255,874	248,630	222,672	251.500	14,802	17,433	15,325	13,502
Other cattle	451,336	430,279	461,782	483,800	17,353	20,338	21,490	16,260
Total cattle	707,210	678,909	684,454	735,300	32,155	37,771	36,815	29,762
Sheep	135,982	142,713	182,240	223,400	1,318	1,440	1,756	1,299
Swine	387,260	330,803	295,330	271.700	5,128	5,013	4,817	3.896
Totals	–	–	–	–	**65,107**	**70,578**	**66,472**	**53,741**

16.—Estimated Numbers and Values of Farm Live Stock in Canada, by Provinces 1927-1930—concluded.

Province and Item.	1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.
	No.	No.	No.	No.	000 $	000 $	000 $	000 $
Saskatchewan—								
Horses	1,161,327	1,135,852	1,117,362	1,071,800	76,648	73,830	62,572	53,590
Milch cows	462,270	418,506	420,004	429,000	23,576	27,203	27,300	24,882
Other cattle	842,020	762,873	746,909	785.900	31,155	35,092	33,611	25,149
Total cattle	1,304,290	1,181,379	1,166,913	1,214,900	54,731	62,295	60,911	50,031
Sheep	170,038	183,098	207,551	209,900	1,530	1,831	1,868	1,259
Swine	616,603	602,156	599,909	497,900	8,016	8,430	9,599	7,966
Totals	-	-	-	-	**140,925**	**146,386**	**134,950**	**112,846**
Alberta—								
Horses	762,603	740,408	733,133	698.700	39,870	37,672	35,568	28,554
Milch cows	379,992	344,495	345,566	348,200	20,966	23,427	25,598	20,334
Other cattle	1,155,008	955,000	944,434	939,900	43,890	45,376	45,928	32.999
Total cattle	1,535,000	1,299,495	1,290,000	1,288,100	64,856	68,803	71,526	53.333
Sheep	510,000	515,000	520,000	530,000	4,888	5,348	4,828	3,268
Swine	742,671	680,000	770,233	636,400	9,303	9,039	11,211	8,910
Totals	-	-	-	-	**118,917**	**129,862**	**123,133**	**94,065**
British Columbia—								
Horses	49,252	51,878	53,772	53,800	3,482	3,943	4,140	3,874
Milch cows	91,747	101,156	111,904	117,600	6,881	8,497	9,400	9,055
Other cattle	258,718	283,876	291,769	273,400	11,125	14,478	15,172	11,483
Total cattle	350,465	385,032	403,673	391,000	18,006	22,975	24,572	20.538
Sheep	128,993	169,057	204,352	197,600	1,548	2,029	2,452	1,778
Swine	49,654	53,652	63,136	64,700	943	1,019	1,200	1,165
Totals	-	-	-	-	**23,979**	**29,966**	**32,364**	**27,355**

17.—Average Values per head of Farm Live Stock in Canada, as Estimated by Crop Correspondents, 1919-1930.

Province and Item.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$	$	$	$	$	$	$	$
Canada—												
Horses	119	106	83	72	63	64	69	72	76	76	70	61
Milch cows	92	79	51	48	47	46	51	52	61	72	74	59
Other cattle	58	47	28	26	26	27	31	31	39	46	47	35
Total cattle	70	59	37	35	34	34	39	41	48	57	58	45
Sheep	15	10	6	8	8	9	10	10	10	10	10	7
Swine	25	23	14	15	12	12	16	16	14	15	16	15
Prince Edward Island—												
Horses	114	109	84	92	80	85	84	91	91	101	96	92
Milch cows	83	60	38	48	43	42	50	50	51	62	61	53
Other cattle	53	34	21	26	22	24	28	28	32	35	37	32
Total cattle	64	43	28	34	30	33	39	39	41	49	48	41
Sheep	14	8	5	7	6	8	9	9	9	10	9	7
Swine	27	24	16	19	11	15	20	15	15	16	16	16
Nova Scotia—												
Horses	127	119	98	95	96	93	94	93	107	111	102	98
Milch cows	76	71	44	45	44	43	46	48	51	61	59	52
Other cattle	54	43	27	26	28	28	30	27	29	37	38	32
Total cattle	63	55	34	35	35	35	37	37	40	49	48	42
Sheep	11	8	4	6	6	7	7	7	7	8	7	6
Swine	29	24	18	18	16	15	14	18	18	17	19	17
New Brunswick—												
Horses	138	139	115	110	99	104	101	109	116	120	114	101
Milch cows	70	61	40	40	43	36	46	46	46	54	58	49
Other cattle	42	39	23	25	26	22	30	26	27	30	32	30
Total cattle	53	49	31	32	34	29	38	37	37	43	45	39
Sheep	11	8	5	6	6	6	7	8	7	8	8	6
Swine	31	22	17	17	16	16	19	22	20	22	21	18

17.—Average Values per head of Farm Live Stock in Canada, as Estimated by Crop Correspondents, 1919-1930—concluded.

Province and Item.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$	$	$	$	$	$	$	$
Quebec—												
Horses	134	126	89	100	97	98	98	101	106	108	106	95
Milch cows	84	75	46	45	42	43	51	49	54	6	70	54
Other cattle	44	38	23	23	22	23	27	26	29	34	38	30
Total cattle	61	56	35	35	33	34	40	39	43	51	55	42
Sheep	13	10	6	8	7	8	9	9	9	10	9	6
Swine	24	26	16	19	15	16	18	18	17	18	19	16
Ontario—												
Horses	110	108	96	90	84	80	89	95	101	99	94	81
Milch cows	107	92	59	58	58	54	60	63	74	84	85	66
Other cattle	68	57	34	34	33	35	39	39	48	54	53	39
Total cattle	83	71	45	44	44	43	48	51	60	68	68	51
Sheep	18	12	8	9	9	11	12	12	12	12	12	8
Swine	25	23	13	14	12	12	15	15	13	14	15	14
Manitoba—												
Horses	131	114	89	84	64	62	69	70	77	75	64	52
Milch cows	90	71	45	42	40	39	44	46	58	70	69	54
Other cattle	58	44	23	25	23	23	28	29	38	47	47	34
Total cattle	67	52	30	31	29	29	33	35	45	56	54	40
Sheep	15	9	6	7	7	9	10	9	9	10	10	6
Swine	27	22	14	14	11	11	16	16	13	15	16	14
Saskatchewan—												
Horses	125	108	82	67	53	60	66	66	66	65	56	50
Milch cows	91	73	49	40	39	41	41	41	51	65	65	58
Other cattle	62	45	28	23	21	23	26	27	37	46	45	32
Total cattle	70	59	33	28	26	28	31	32	42	53	52	41
Sheep	15	8	6	7	6	9	9	9	9	10	9	6
Swine	26	20	14	13	10	11	16	17	13	14	16	16
Alberta—												
Horses	94	80	64	42	40	38	43	45	52	51	49	41
Milch cows	89	71	48	38	39	38	40	43	55	68	74	58
Other cattle	60	45	28	21	23	23	26	28	38	48	49	35
Total cattle	66	51	32	25	27	27	30	33	43	53	55	41
Sheep	14	10	6	7	8	10	10	10	10	10	9	6
Swine	25	18	13	12	10	12	15	15	13	13	15	14
British Columbia -												
Horses	129	126	100	78	75	71	75	78	78	76	77	72
Milch cows	118	125	85	69	70	65	66	68	75	84	84	77
Other cattle	71	72	40	33	27	33	36	35	43	51	52	42
Total cattle	81	99	50	41	39	42	44	43	51	60	61	53
Sheep	16	11	8	9	10	11	13	12	12	12	12	9
Swine	28	21	17	16	14	14	17	19	19	19	19	18

18.—Estimated Numbers and Values of Farm Poultry in Canada, 1928-30.

Province and Item.	No.	Average Value per head.	Total Value.	Province and Item.	No.	Average Value per head.	Total Value.
		$	$			$	$
Canada—				**P.E. Island—**			
Turkeys.....1928	2,065,797	3·16	6,265,000	Turkeys.... 1928	14,290	3·44	49,000
1929	2,423,029	2·69	6,512,000	1929	10,609	3·25	34,000
1930	2,399,000	2·31	5,547,000	1930	13,600	2·69	37,000
Geese........1928	1,125,047	2·26	2,545,000	Geese....... 1928	33 985	2·22	75,000
1929	1,155,244	2·11	2,436,000	1929	31,450	2·27	71,000
1930	1,160,000	1·84	2,131,000	1930	38,400	1·93	74,000
Ducks 1928	995,840	1·23	1,228,000	Ducks..... 1928	8,887	1·16	10,000
1929	1,111,903	1·15	1,274,000	1929	10,210	1·14	12,000
1930	989,000	1·04	1,025,000	1930	10,700	1·05	11,000
Other fowls..1928	49,592,855	0·97	47,913,000	Other fowls. 1928	880,162	0·98	863,000
1929	55,242,787	0·95	52,387,000	1929	871,983	1 03	898,000
1930	56,247,000	0·82	46,149,000	1930	917,000	0·96	880,000
Totals, poultry.1928	53,779,539	–	58,212,000	Totals, poultry 1928	937,324	–	997,000
1929	59,952,963	–	62,609,000	1929	924,252	–	1,015,000
1930	60,795,000	–	54,852,000	1930	979,700	–	1,002,000

18.—Estimated Numbers and Values of Farm Poultry in Canada, 1928-30—concluded.

Province and Item.	No.	Average Value per head.	Total Value.
		$	$
Nova Scotia—			
Turkeys......1928	11,775	3·67	43,000
1929	15,618	3·44	54,000
1930	16,600	3·07	51,000
Geese.........1928	17,930	2·76	49,000
1929	19,350	2·65	51,000
1930	19,500	2·43	47,000
Ducks.........1928	8,591	1·51	13,000
1929	9,106	1·56	14,000
1930	9,800	1·22	12,000
Other fowls...1928	928,706	0·94	873,000
1929	1,070,097	0·98	1,049,000
1930	1,100,000	0·90	990,000
Totals, poultry.1928	957,002	–	978,000
1929	1,114,171	–	1,168,000
1930	1,145,900	–	1,100,000
New Brunswick—			
Turkeys......1928	42,646	3·65	156,000
1929	36,182	3·50	127,000
1930	43,200	2·98	129,000
Geese.........1928	17,871	2·70	48,000
1929	17,445	2·48	43,000
1930	18,300	2·13	39,000
Ducks.........1928	10,731	1·61	17,000
1929	8,992	1·39	12,000
1930	7,700	1·27	10,000
Other fowls...1928	924,970	1·05	971,000
1929	942,775	1·04	980,000
1930	1,018,100	0·93	947,000
Totals, poultry.1928	996,218	–	1,192,000
1929	1,005,394	–	1,162,000
1930	1,087,300	–	1,125,000
Quebec—			
Turkeys..... 1928	186,000	3·80	707,000
1929	190,000	3·59	682,000
1930	194,100	2·97	576,000
Geese........ 1928	106,000	2·36	250,000
1929	105,000	2·24	235,000
1930	105,000	1·92	202,000
Ducks....... 1928	55,000	1·37	75,000
1929	72,000	1·32	95,000
1930	72,700	1·19	87,000
Other fowls.. 1928	8,003,000	1·10	8,803,000
1929	8,058,000	1·12	9,025,000
1930	8,208,500	0·98	8,044,000
Totals, poultry 1928	8,350,000	–	9,835,000
1929	8,425,000	–	10,037,000
1930	8,580,300	–	8,909,000
Ontario—			
Turkeys..... 1928	496,202	3·91	1,940,000
1929	510,054	3·38	1,724,000
1930	521,700	2·94	1,534,000
Geese........ 1928	590,415	2·42	1,429,000
1929	587,222	2·29	1,345,000
1930	571,000	2·08	1,188,000
Ducks....... 1928	557,150	1·33	741,000
1929	590,610	1·24	732,000
1930	566,200	1·12	634,000
Other fowls.. 1928	18,059,809	1·03	19,143,000
1929	20,357,205	1·06	21,579,000
1930	20,901,400	0·93	19,438,000
Totals, poultry 1928	19,703,576	–	23,253,000
1929	22,045,091	–	25,380,000
1930	22,560,030	–	22,794,000
Manitoba—			
Turkeys..... 1928	319,429	2·95	942,000
1929	438,235	2·42	1,061,000
1930	434,700	1·98	861,000
Geese........ 1928	101,551	1·90	193,000
1929	113,696	1·83	208,000
1930	113,800	1·41	160,000
Ducks....... 1928	72,927	1·04	76,000
1929	91,076	0·95	87,000
1930	75,300	0·80	60,000
Other fowls.. 1928	3,920,149	0·83	3,254,000
1929	4,941,076	0·81	4,002,000
1930	5,034,900	0·67	3,373,000
Totals, poultry 1928	4,414,056	–	4,465,000
1929	5,584,083	–	5,358,000
1930	5,658,700	–	4,454,000
Saskatchewan—			
Turkeys......1928	444,302	2·55	1,133,000
1929	528,979	2·22	1,174,000
1930	513,300	2·10	1,078,000
Geese.........1928	146,086	1·88	275,000
1929	153,249	1·67	256,000
1930	155,900	1·40	218,000
Ducks.........1928	146,968	0·95	140,000
1929	162,195	0·88	143,000
1930	117,100	0·80	94,000
Other fowls...1928	7,712,989	0·73	5,630,000
1929	8,458,029	0·67	5,667,000
1930	8,720,700	0·58	5,058,000
Totals, poultry.1928	8,450,345	–	7,178,000
1929	9,302,452	–	7,240,000
1930	9,507,000	–	6,448,000
Alberta—			
Turkeys......1928	517,857	2·75	1,424,000
1929	649,004	2·31	1,499,000
1930	614,100	1·85	1,136,000
Geese.........1928	100,461	1·95	196,000
1929	116,935	1·69	198,000
1930	128,000	1·40	179,000
Ducks.........1928	99,258	1·02	101,000
1929	133,942	0·98	131,000
1930	99,300	0·80	79,000
Other fowls...1928	5,496,130	0·77	4,232,000
1929	6,697,998	0·74	4,957,000
1930	6,784,000	0·60	4,070,000
Totals, poultry.1928	6,213,706	–	5,953,000
1929	7,597,879	–	6,785,000
1930	7,625,400	–	5,464,000
British Columbia–			
Turkeys......1928	33,296	3·95	132,000
1929	44,348	3·55	157,000
1930	47,700	3·04	145,000
Geese.........1928	10,748	2·82	30,000
1929	10,897	2·68	29,000
1930	10,100	2·37	24,000
Ducks.........1928	36,328	1·51	55,000
1929	33,772	1·42	48,000
1930	30,200	1·26	38,000
Other fowls...1928	3,666,940	1·13	4,144,000
1929	3,845,624	1·10	4,230,000
1930	3,562,400	0·94	3,349,000
Totals, poultry.1928	3,747,312	–	4,361,000
1929	3,934,641	–	4,464,000
1930	3,650,400	–	3,556,000

Production and Value of Wool.[1]—The production of wool in Canada from 3,698,800 sheep and lambs is placed at 21,016,000 lb. in 1930, as compared with

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[1] For details of wool clip, see Monthly Bulletin of Agricultural Statistics for December of each year.

20,283,000 lb. from 3,638,972 sheep and lambs in 1929. Table **19** gives the total estimated production and value of wool for the years 1915 to 1930.

19.—Estimated Quantity and Value of Canadian Wool Clip, 1915-1930.

NOTE.—Includes sheep on Indian reserves.

Year.	Sheep.	Production of Wool.	Average Price per lb. of Wool.	Value.
	No.	lb.	cents.	$
1915	2,038,662	12,000,000	28	3,360,000
1916	2,022,941	12,000,000	37	4,440,000
1917	2,369,358	12,000,000	59	7,000,000
1918	3,052,748	20,000,000	60	12,000,000
1919	3,421,958	20,000,000	60	12,000,000
1920	3,720,783	24,000,000	22	5,280,000
1921	3,675,860	21,251,000	14	2,975,000
1922	3,262,626	18,523,392	17·5	3,149,000
1923	2,755,273	15,539,416	20	3,160,000
1924	2,686,367	15,111,719	25	3,774,000
1925	2,757,199	15,553,045	25	3,961,000
1926	3,144,343	17,959,896	23	4,131,000
1927	3,265,727	18,672,766	22	4,108,000
1928	3,418,992	19,611,430	26	5,099,000
1929	3,638,972	20,283,000	21	4,470,000
1930	3,698,8[illegible]0	21,016,000	11	2,311,000

Egg Production.—Table **20** gives the results of calculations indicating approximately the number and value of eggs produced on farms in Canada for the years 1923-29. The estimates relate only to hens' eggs produced on farms, and therefore do not include eggs of urban poultry, or eggs of farm turkeys, ducks, etc. In 1920 the production of eggs elsewhere than on farms amounted to 24,319,832 dozen, or 16·8 p.c. of the total production of eggs in that year, as ascertained at the census.

20.—Production and Value of Farm Eggs in Canada, 1923-1929.[1]

NOTE.—Includes Indian reserves.

Year.	Egg-producing Hens on Farms.	Average Production per Hen.	Total Eggs Produced.	Average Value per dozen.	Total Value of Eggs Produced.
	No.	No.	dozen.	cents.	$
1923	31,064,992	78	202,186,508	24	48,770,780
1924	32,220,057	79	212,648,685	24	50,332,439
1925	32,837,040	82	224,778,867	26	57,950,340
1926	34,006,290	84	237,080,399	28	66,198,285
1927	3[illegible],722,700	87	253,277,227	32	80,110,010
1928	34,022,511	95	268,868,857	31	84,442,727
1929	34,986,508	95	278,096,578	31	85,380,532

[1] For details of egg production in 1928 and 1929, see Monthly Bulletin of Agricultural Statistics, April, 1930, p. 112.

Subsection 4.—Fur Farming.[3]

Origin of Fur Farming Industry.—A short account of the origin of the fur farming industry in Canada was given on p. 249 of the 1929 edition of the Year Book. A fuller description of the rise of the industry in Prince Edward Island, its original home, was given in the Census and Statistics Monthly for May, 1914, at p. 110, while a still more detailed account of the earlier history of the industry was given in a publication of the Commission of Conservation, Ottawa, entitled "Fur Farming in Canada", by J. Walter Jones, B.A., B.S.A., the second edition of which was published in 1914.

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[3] Revised by Miss F. A. Brown, Chief, Fur Statistics Branch, Dominion Bureau of Statistics. A list of publications of this Branch will be found in Chapter XXVIII. For further particulars regarding fur farming the reader is referred to the Report on Fur Farms, 1928, which may be obtained from the Dominion Statistician, Ottawa.

Fur Farms of Canada.—The term "fur farm" includes farms devoted entirely to the raising of fur-bearing animals (principally silver foxes), together with parts of farms where the raising of fur-bearing animals is carried on as a distinct branch of the operations. Such farms increased in number from 429 in 1919 to 4,099 in 1928, or, if muskrat and beaver farms are included, to 4,326, and the industry is still rapidly growing both in numbers of farms and in numbers and varieties of fur-bearing animals on those farms. Although the fox has proved the most suited to domestication, other kinds of fur-bearing wild animals are being raised in captivity—mink, raccoon, skunk, marten, fisher and rabbit. Karakul sheep, from which are obtained the furs known as "persian lamb", "astrachan" and "broadtail", are also being raised in Canada. Muskrat farms are now the most numerous of the miscellaneous class, mink farms coming second and raccoon third. A few of the fox farms also raise miscellaneous fur-bearing animals in addition to the foxes.

Capital Investment.—The earliest Dominion-wide statistics of fur farms were collected for the year 1919, and since then annual statistics have been obtained. Statistics showing the increasing numbers and values of fur-bearing animals on fur farms are given in Tables **21** and **22**, the former showing an increase of over fifteen fold in numbers since 1920, and the latter almost a four-fold increase in values from $4,722,905 to $16,401,453. The capital investment in lands and buildings in 1928 was $6,574,838, making a grand total investment of $22,976,291 in the industry in that year.

21. Number of Fur-bearing Animals on Fur Farms in Canada at Dec. 31, 1920-1928.

Kind of Animal.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
Silver fox	13,694	17,954	22,318	25,186	31,204	42,125	47,657	57,961	72,631
Patch fox	1,103	1,237	1,384	1,556	1,596	1,736	1,742	1,747	1,853
Red fox	373	484	435	627	720	1,196	1,163	1,198	1,489
Blue fox	3	–	10	12	216	735	1,050	1,713	1,331
Silver blue fox	–	–	–	–	–	–	–	–	6
White fox	1	–	16	2	3	–	–	–	1
Mink	188	210	288	489	663	982	1,650	2,615	5,028
Marten	3	8	3	11	13	35	69	112	152
Fisher	6	5	7	8	9	15	46	87	136
Raccoon	23	55	105	159	245	445	689	1,238	1,852
Skunk	33	99	34	92	133	129	88	111	99
Opossum	–	9	–	–	–	–	–	–	–
Lynx	2	2	3	2	4	3	3	2	9
Coyote	–	–	–	9	22	59	4	29	30
Badger	–	–	–	–	–	3	–	–	113
Chinchilla rabbit	–	–	–	222	351	1,215	1,843	3,085	3,464
Otter	–	–	–	–	–	–	–	–	1
Siberian hare	–	–	–	24	25	35	39	16	–
Rabbit, n.e.s.	–	–	–	–	353	967	252	1,129	1,733
Karakul sheep	1,100	750	941	883	1,545	1,209	177	1,082	94
Muskrat	–	2,250	5,157	10,820	19,460	28,105	35,838	55,390	168,861
Beaver	–	40	81	23	90	155	360	505	799
Totals	16,529	23,103	30,782	40,125	56,652	79,149	92,675	128,020	259,682

22.—Values of Fur-bearing Animals on Fur Farms in Canada, at Dec. 31, 1920-28.[1]

Kind of Animal.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
	$	$	$	$	$	$	$	$	$
Silver fox.....	4,536,417	5,789,465	5,663,127	6,119,651	8,095,181	9,536,097	10,652,304	12,824,787	14,922,378
Patch or cross fox..........	87,735	102,850	103,055	108,324	114,524	111,293	110,517	122,400	167,222
Red fox.......	11,810	10,035	8,626	10,875	14,609	23,305	21,709	28,460	46,770
Blue fox......	748	–	2,200	1,600	39,166	126,205	149,990	221,780	172,682
Silver blue fox	–	–	–	–	–	–	–	–	1,520
White fox.....	100	–	700	100	150	–	–	–	150
Mink.........	4,835	5,366	6,051	10,679	20,042	37,161	79,145	148,005	328,998
Racoon.......	260	854	1,313	2,208	2,758	6,487	16,448	41,093	59,672
Skunk........	125	500	396	784	857	877	778	1,100	693
Marten.......	100	410	175	950	1,200	2,805	4,870	10,510	14,310
Fisher........	675	700	700	770	1,240	2,035	6,600	12,610	24,325
Opossum......	–	65	–	–	–	–	–	–	–
Lynx.........	100	200	150	50	140	150	150	100	880
Otter.........	–	–	–	–	–	–	–	–	70
Coyote.......	–	–	–	111	650	715	55	490	480
Badger.......	–	–	–	–	–	60	–	–	4,445
Siberian hare.	–	–	–	100	100	220	188	80	–
Chinchilla rabbit......	–	–	–	2,230	3,705	12,865	15,303	23,648	27,711
Rabbit, n.e.s.	–	–	–	–	2,065	5,334	1,944	9,280	12,575
Karakul sheep	80,000	60,000	68,050	49,800	93,000	32,410	8,809	21,539	5,348
Muskrat......	–	–	–	–	–	–	–	127,921	562,749
Beaver.......	–	–	–	–	–	–	–	24,455	48,475
Totals....	**4,722,905**	**5,970,445**	**5,854,543**	**6,308,232**	**8,389,387**	**9,898,019**	**11,068,810**	**13,618,258**	**16,401,453**

Annual Revenue.—The annual revenue of the fur farmer arises from two sources, the sale of animals and the sale of pelts. Table **23** shows that the sales of animals increased from $763,221 in 1920 to $3,837,420 in 1928, while Table **24** indicates that in the same eight years sales of pelts have increased from $388,335 to $2,389,026.

23.—Values of Fur-bearing Animals Sold from Fur Farms in Canada, 1920-28.

Kind of Animal.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
	$	$	$	$	$	$	$	$	$
Silver fox...........	750,123	843.976	910,590	1,286,375	2,484,166	2,755,668	2,189.330	2,501,816	3,552.874
Patch or cross fox...	12,095	18,705	17,725	14,469	27,423	28,687	19.803	23,350	38.675
Red fox.............	818	1,320	2,129	1,289	3,116	2,828	2,663	5,079	12,159
Blue fox.............	–	–	–	–	19,100	65,620	20,225	28,115	28,530
Silver blue..........	–	–	–	–	–	–	–	–	550
White fox...........	–	–	–	–	100	–	–	–	–
Mink...............	150	925	1,634	4,081	8,353	15,654	25,692	58,992	140,889
Racoon.............	35	179	1,043	489	867	3,683	4,955	7,626	18,031
Skunk..............	–	–	30	10	150	242	188	190	–
Marten.............	–	–	–	–	–	400	230	700	350
Fisher..............	–	300	–	–	100	500	825	635	2,375
Coyote.............	–	–	–	–	–	26	–	6	–
Badger.............	–	–	–		–	–	–	–	215
Siberian hare.......	–	–	–	–	120	252	173	58	–
Chinchilla rabbit...	–	–	–	1,600	4,540	16,384	14,412	11,860	18,355
Rabbit, n.e.s.......	–	–	–	–	1,595	2,574	133	2,689	7,861
Karakul sheep......	–	5,800	5,767	6,180	3,800	4,752	16,000	4,215	150
Muskrat............	–	–	–	190	–	2,024	3,773	6,719	16,206
Beaver.............	–	–	–	–	–	–	–	100	200
Totals......	**763,221**	**871,205**	**938,918**	**1,314,683**	**2,553,430**	**2,899,291**	**2,298,402**	**2,652,159**	**3,837,420**

24.—Value of Pelts Sold from Fur Farms in Canada, 1920-28.

Kind of Animal.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
	$	$	$	$	$	$	$	$	$
Silver fox	373,140	596,809	573,806	819,429	620,810	736,289	1,174,700	2,067,170	2,278,611
Patch or cross fox	11,111	22,958	18,003	32,007	33,120	27,880	34,177	49,125	54,307
Red fox	3,349	4,361	4,494	5,849	8,817	14,585	13,055	21,257	21,774
Blue fox	–	–	75	–	–	–	60	8,053	13,516
White fox	–	–	–	480	–	40	–	–	–
Mink	735	962	723	773	329	1,888	2,044	4,546	8,916
Raccoon	–	38	61	165	97	242	295	1,193	1,502
Skunk	–	302	525	9	71	65	252	30	23
Marten	–	–	–	–	–	–	–	173	30
Fisher	–	–	–	–	–	72	85	60	112
Coyote	–	–	–	301	–	30	60	60	–
Badger	–	–	–	–	–	–	–	–	28
Siberian hare	–	–	–	–	200	97	7	–	–
Chinchilla rabbit	–	–	–	15	85	–	178	1,701	526
Rabbit, n.e.s	–	–	–	–	91	195	28	182	246
Karakul sheep	–	1,470	220	1,145	1,000	–	–	800	–
Lynx	–	–	–	–	–	–	–	–	45
Muskrat	–	–	–	295	–	1,930	896	8,564	9,365
Beaver	–	–	700	–	–	–	215	100	25
Totals	**388,335**	**626,990**	**598,607**	**860,478**	**664,620**	**783,313**	**1,226,052**	**2,163,014**	**2,389,026**

The Provincial Distribution of Fur Farming.—The statistics of Table **25**, showing the capital investment in the industry by provinces, indicate that Prince Edward Island no longer holds its earlier margin of supremacy in the industry, though its farms are still the most highly capitalized, the average Prince Edward Island farm having nearly $5,160 worth of fur-bearing animals and $1,780 invested in land and buildings as compared with $3,670 and $1,680, respectively, for Ontario, the next province in importance. Between 1926 and 1928 over 1,600 new farms were added in the Dominion as a whole.

25.—Number of Fur Farms, Value of Land and Buildings and Value of Fur-bearing Animals, by Provinces, 1926-1928.

Province.	Fur Farms.			Value of Land and Buildings.			Value of Fur-bearing Animals.		
	1926.	1927.	1928.	1926.	1927.	1928.	1926.	1927.	1928.
	No.	No.	No.	$	$	$	$	$	$
P.E. Island	575	720	712	1,000,716	1,166,369	1,269,664	3,304,610	3,511,920	3,676,229
Nova Scotia	250	359	372	194,205	217,433	249,025	663,441	758,582	839,365
New Brunswick	220	296	484	249,954	300,850	474,667	957,443	1,174,025	1,576,811
Quebec	617	794	989	636,563	796,164	1,106,033	1,569,342	2,306,781	3,236,466
Ontario	566	748	884	726,607	1,019,438	1,483,618	2,049,545	2,663,373	3,247,336
Manitoba	74	105	170	271,352	384,823	486,505	660,148	833,600	967,550
Saskatchewan	53	74	112	112,726	214,814	420,762	372,945	522,126	644,799
Alberta	146	137	228	306,876	328,999	463,745	781,663	869,952	1,180,462
British Columbia	194	318	358	362,376	752,315	576,269	653,203	916,719	959,870
Yukon Territory	14	14	17	36,000	38,850	44,550	56,470	62,180	72,565
Totals	**2,709**	**3,565**	**4,326**	**3,897,375**	**5,220,055**	**6,574,838**	**11,068,810**	**13,619,258**	**16,401,453**

Subsection 5.—Dairying Statistics.[1]

Dairying is one of the oldest and is now one of the most important industries of Canada. The first permanent introduction of cows into Canada was undoubtedly made by Champlain at Quebec between 1608 and 1610. In 1629 he had 60 to 70 cattle on his farm at Cap Tourmente. In 1660, Colbert, the great French Minister, sent to New France representatives of the best dairy cows of Normandy and Brittany. In 1667 there were 3,107 head of cattle in New France and in 1671, 866 in Acadia. The first cattle in what is now Ontario were taken thither by La Motte Cadillac in 1701. In 1823 a herd of 300 cattle was driven north to the Red River Settlement and sold to settlers, while cattle in British Columbia date from 1837. Modern dairying owes its development and expansion to the factory system for the making of cheese and butter, to the introduction of the centrifugal cream separator from Denmark in 1882, and to the facilities afforded by improved methods of cold storage, which came under government organization in 1895.

Creamery Butter.—The first creamery in Canada was established at Athelstan, Huntingdon Co., Quebec, in 1873, while the first cream separator was installed at Ste. Marie, Beauce Co., Quebec, in 1882. The first Ontario creamery was established in 1875, and what was probably the first cream separator in Ontario was installed at Belleville in 1883. Butter reached its maximum exportation in the year ended June 30, 1903, with 34,128,944 lb. The latest figures for the year ended Dec. 31, 1930, show an export of 1,180,400 lb. The quantity of creamery butter made in Canada in 1929 was 170,810,230 lb. (Table **26**), valued at $65,929,782, an increase in quantity from the preceding year of 2,783,191 lb., or 1·6 p.c. and an increase in value of $1,227,244 or 1·9 p.c. The average price per lb. for the whole of Canada was 38·6 cents in 1929, compared with 38·5 cents in 1928.

26.—Production and Value of Creamery Butter, by Provinces, 1927-1929.

Province.	Quantities.			Values.		
	1927.	1928.	1929.	1927.	1928.	1929.
	lb.	lb.	lb.	$	$	$
Prince Edward Island	2,019,442	2,036,838	1,883,292	742,769	784,277	745,069
Nova Scotia	5,059,740	4,479,276	4,289,930	1,913,455	1,766,868	1,777,183
New Brunswick	1,898,212	2,091,723	1,860,173	714,804	816,803	747,024
Quebec	55,098,768	52,526,248	53,489,879	20,216,505	19,975,556	20,366,452
Ontario	66,312,963	63,733,187	59,346,844	25,095,334	24,917,668	23,682,187
Manitoba	14,231,026	13,782,167	15,472,109	5,125,585	5,139,387	5,724,640
Saskatchewan	11,995,531	11,310,496	14,786,205	4,354,734	4,370,623	5,541,464
Alberta	16,179,712	14,375,636	16,004,463	5,765,348	5,374,456	5,825,248
British Columbia	4,183,553	3,691,468	3,677,335	1,781,452	1,556,900	1,520,515
Totals	**176,978,947**	**168,027,039**	**170,810,230**	**65,709,985**	**64,702,538**	**65,929,782**

Factory Cheese.—The early French colonists made butter and cheese, of which the *fromage raffiné*, still made on the Isle of Orleans, is probably a survival. The United Empire Loyalists introduced cheese- and butter-making into the districts settled by them, and in 1801 sent their surplus butter and cheese to the United States. The first modern cheese factory in Canada was established in Oxford Co., Ontario, in 1864, while shortly afterwards factories were established in the Burkville and Belleville districts of Ontario; in Missisquoi Co., Quebec; near Sussex, New Brunswick, and in Annapolis Co., Nova Scotia. These factories were established before 1870, and after that date the number rapidly increased. In 1868 the quantity of cheese exported from Canada was 6,141,570 lb. In 1904 cheese reached its maximum exportation with 233,980,716 lb., and the exports of cheese for the year ended Dec. 31, 1930, amounted to 80,163,700 lb. The production of factory cheese in 1929 totalled 118,746,286 lb., with a value of $21,471,330, a decrease in quantity from the previous year of 17·8 p.c., and in value of 29.6 p.c. (Table **27**). The average prices per lb. were 18 cents in 1929 and 21 cents in 1928.

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[1] For fuller particulars see the Bureau's Report on Dairy Statistics, obtainable from the Dominion Statistician.

27.—Production and Value of Factory Cheese, by Provinces, 1927-1929.

Province.	Quantities.			Values.		
	1927.	1928.	1929.	1927.	1928.	1929.
	lb.	lb.	lb.	$	$	$
Prince Edward Island	1,657,431	1,710,943	1,391,603	307,670	360,748	243,452
Nova Scotia	42,676	25,230	18,867	8,535	5,298	3,794
New Brunswick	803,325	697,811	578,493	155,098	149,798	109,218
Quebec	37,510,737	45,183,970	35,169,815	6,805,658	9,438,302	6,239,139
Ontario	96,161,301	95,561,895	79,904,131	17,851,247	20,227,759	14,529,309
Manitoba	635,172	477,419	500,426	139,463	104,884	106,351
Saskatchewan	269,048	148,215	142,024	52,337	32,567	30,091
Alberta	848,511	722,048	1,001,475	170,689	158,404	198,047
British Columbia	128,707	57,088	39,452	31,451	16,703	11,929
Totals	**138,056,908**	**144,584,619**	**118,746,286**	**25,522,148**	**30,494,463**	**21,471,330**

Condensed Milk and Milk Powder.—Within recent years there has been a large increase in the production of condensed milk. The first milk-condensing plant was established at Truro, N.S., in 1883, and there are now in Canada 30 plants for the manufacture of condensed and evaporated milk and milk powder. The quantity of condensed milk made in Canada in 1929 was 25,482,419 lb., value $2,710,090, a decrease in quantity of 2,246,576 lb., or 8·1 p.c., as compared with 1928. The quantity of evaporated milk made was 53,995,117 lb., valued at $5,060,229, an increase of 4·5 p.c. in quantity and 5·1 p.c. in value compared with 1928. The quantity of milk powder and skim milk powder made in 1929 was 14,955,151 lb., valued at $1,776,741. Of the 30 condenseries in operation in Canada in 1929, 26 were situated in Ontario. The total value of products of condenseries in Canada was $14,686,802. Table **28** shows the quantities and values of products other than butter and factory cheese for the years 1927, 1928 and 1929.

28.—Miscellaneous Products of Dairy Factories, 1927-1929.

Product.	Quantities.			Values.		
	1927.	1928.	1929.	1927.	1928.	1929.
				$	$	$
Condensed milk........ lb.	30,909,839	27,728,995	25,482.419	3,272,283	2,926,477	2,710,090
Evaporated milk....... lb.	51,854,663	51,654,377	53,995,117	4,574,839	4,815,638	5,060,229
Milk powder............ lb.	2,213,974	2,314,490	2,167,333	466,606	578,088	533,904
Skim milk powder...... lb.	12,751,625	12,509,187	12,787,818	1,226,796	1,236,277	1,242,837
Cream powder.......... lb.	148,384	114,835	115,614	80,204	57,599	59,281
Skim condensed milk... lb.	7,107,998	7,920,255	10,491,869	412,447	437,721	576,942
Condensed coffee....... lb.	268,206	250,347	247,833	50,423	44,682	43,768
Whey butter............ lb.	1,393,730	1,582,364	1,309,337	459,055	542,339	456,431
Casein.................. lb.	862,378	563,061	1,211,451	102,714	79,726	174,641
Ice Cream..............gal.	5,303,531	6,353,077	7,149,947	7,098,109	8,560,391	9,737,020
Milk sold...............gal.	42,151,842	43,708,410	46,979,921	17,576,453	19,369,286	20,894,287
Cream sold..(lb. butter fat)	13,308,886	14,543,108	16,916,547	8,223,008	9,225,837	11,002,653
Whey cream sold	–	–	–	249,601	275,344	253,224
Buttermilk sold	–	–	–	338,783	370,336	389,008
Sundry	–	–	–	547,475	656,872	854,570
Totals	–	–	–	**44,678,796**	**49,176,613**	**53,988,885**

Total Production of Dairy Factories.—In Table **29** are shown the total values of all the products of dairy factories by provinces for the five years 1925 to 1929. For Canada as a whole, the figures show a decline in the latest year of nearly 2·1 p.c. which is more than accounted for by the decreased value of the products of Ontario and Quebec dairy factories. Practically all the other provinces show increases for 1929 as compared with 1928.

29.—Total Values of All Products of Dairy Factories, by Provinces, 1925-1929.[1]

Province.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$
Canada	**138,282,226**	**133,353,076**	**135,910,930**	**144,373,614**	**141,389,997**
Prince Edward Island	1,107,803	1,048,728	1,143,554	1,247,128	1,096,630
Nova Scotia	2,878,005	2,939,770	3,186,845	3,234,025	3,327,593
New Brunswick	1,442,613	1,507,716	1,683,065	1,859,635	1,926,278
Quebec	30,658,717	26,444,546	29,101,969	31,784,255	29,172,614
Ontario	73,751,526	72,846,336	73,788,538	77,699,052	73,976,945
Manitoba	8,092,802	8,424,434	8,385,844	8,749,518	9,953,940
Saskatchewan	7,373,498	7,190,215	6,414,373	6,966,282	8,471,388
Alberta	8,188,104	7,817,729	6,888,049	6,810,805	7,315,386
British Columbia	4,789,158	5,133,602	5,318,693	6,022,914	6,149,223

[1] The total values of dairy products in 1901 and various subsequent years are shown in the "Statistical Summary of the Progress of Canada", immediately following the Table of Contents.

Dairy Butter and Home-made Cheese.—The statistics of the foregoing tables relate entirely to the products of dairy factories. In addition, there is a large production of butter on farms, generally described as home-made or dairy butter, and a small production of home-made cheese. No annual statistics are collected of these products; the census of 1911, however, showed that the production of dairy butter in 1910 was 137,110,200 lb., value $30,269,497, and of home-made cheese 1,371,092 lb., value $154,088. According to the census of 1921 the production of dairy butter in 1920 was 103,487,506 lb., worth $50,180,952, and of home-made cheese 533,561 lb., worth $123,283. The production of dairy butter in 1929 is estimated at approximately 88,000,000 lb., of the value of $28,929,000, thus making the total estimated production of butter, including dairy butter, in 1929, 258,810,230 lb., valued at $94,858,782.

Total Values of Dairy Products.—The total value of the dairy products of Canada in 1920 was estimated at $288,836,093, including creamery butter $63,625,203, dairy butter $50,180,952, factory cheese $39,100,872, home-made cheese $123,283, miscellaneous factory products $22,827,460 and milk consumed fresh or otherwise used $112,978,323. For 1929 the total is estimated at $291,742,857, comprising: creamery butter $65,929,782, dairy butter $28,929,000, factory cheese $21,471,330, home-made cheese $82,800, miscellaneous dairy factory products $22,091,945 and milk consumed fresh or whole $153,238,000. Details by provinces are given for 1929 in Table **30**, with Dominion totals for the four preceding years.

39.—Values of the Dairy Production of Canada, by Provinces, 1929, with Dominion Totals for 1925-29.

Province.	Dairy Butter.	Creamery Butter.	Home-made Cheese.	Factory Cheese.	Miscellaneous Factory Products.	Milk Consumed Fresh or Otherwise used.	All Products.
	$	$	$	$	$	$	$
Prince Edward Island	359,000	745,069	100	243,452	53,670	1,553,000	2,955,291
Nova Scotia	2,501,000	1,777,183	100	3,794	1,069,484	6,112,000	11,463,561
New Brunswick	1,888,000	747,024	100	109,218	332,293	5,657,000	8,733,635
Quebec	6,745,000	20,366,452	23,000	6,239,139	2,567,023	50,757,000	86,697,614
Ontario	6,363,000	23,682,187	13,000	14,529,309	14,238,774	56,931,000	115,757,270
Manitoba	1,958,000	5,724,040	18,000	106,351	640,675	5,947,000	14,404,066
Saskatchewan	5,280,000	5,541,464	2,000	30,091	864,208	11,407,000	23,124,763
Alberta	3,080,000	5,825,248	25,000	198,047	674,130	9,126,000	18,928,425
British Columbia	754,000	1,520,515	1,500	11,929	1,642,288	5,748,000	9,678,232
Totals, 1929	**28,929,000**	**65,929,782**	**82,830**	**21,471,330**	**22,691,945**	**153,238,000**	**291,742,857**
" 1928	**29,103,000**	**64,702,538**	**82,009**	**30,494,463**	**23,581,491**	**152,661,856**	**297,625,347**
" 1927	**31,435,121**	**65,709,986**	**70,654**	**25,522,148**	**18,879,335**	**154,257,346**	**294,874,590**
" 1926	**28,252,777**	**61,753,390**	**80,240**	**28,807,841**	**17,767,271**	**140,643,460**	**277,304,979**
" 1925	**32,128,799**	**63,008,697**	**95,073**	**36,571,556**	**16,882,747**	**136,177,373**	**284,863,645**

Subsection 6.—Fruit Farming.

The wild fruits of Canada are numerous and varied. Currants, gooseberries, raspberries and strawberries grow wild almost as far north as the Arctic circle, the flavour being unexcelled by that of cultivated varieties. The blueberry grows in great profusion over a large part of Eastern Canada, while the cranberry is found over wide areas throughout the Dominion. Other wild fruits include the saskatoon or juneberry of the Prairie Provinces, the choke cherry, the pin or bird cherry, the buffalo berry, the blackberry, the salmon-berry and the cloudberry. Wild plums are found all through the eastern provinces and wild grapes as far northwestward as Manitoba.

It is usual in the farms of Eastern Canada to find orchard or garden fruits produced for household needs, if not for sale as ordinary farm products. Fruit growing as a specialized form of agriculture is a comparatively recent development. The building of the railways and the introduction of refrigerator cars provided the means by which perishable fruits might be rapidly distributed throughout the Dominion from districts where climatic and soil conditions were particularly favourable to the cultivation of fruit. While commercial fruit growing is by no means restricted to a few districts and is often a feature of agricultural production in suburban areas, certain districts are nevertheless noted as being the more important centres of fruit production. The Annapolis and adjacent valleys in Nova Scotia, the Niagara peninsula of Ontario and the Okanagan valley in British Columbia are outstanding, but the northern shore of lake Ontario, the Georgian Bay district, the areas adjacent to Montreal, the lower British Columbia mainland and Vancouver island are also noted for their fruit crops.

Small fruits such as strawberries, raspberries, currants and gooseberries are produced widely throughout Canada. For 1929 the strawberry crop attained the record quantity of over 14,400,000 quarts worth $1,797,020, in spite of the fact that the average price obtained was only 12c per quart. A better average price was obtained for raspberries than in any year since 1925, and the total value of this crop was greater than in any year since 1923. The smaller fruits grown for sale generally find a market in nearby towns or cities, although many shipments are made from rural districts by rail or water to more distant centres of consumption. Apples, which are the most important Canadian fruit, meet with ready sale in British and European markets, where their attractive appearance, flavour and good keeping qualities have gained a wide reputation. Practically all varieties of fruit are prepared in canneries located near the centres of production and are shipped to both domestic and foreign markets.

Origin and Growth of Fruit Growing.—In Nova Scotia the apple-growing industry has assumed great importance, the bulk of the crop being annually exported to Great Britain. There are records of the growth of apples in Acadia from 1635. The census of 1698 showed that at Port Royal alone there were 1,584 apple trees distributed amongst 54 families, of which many had orchards of from 75 to 100 trees. At Beaubassin in 1698 the census showed 32 acres in fruit trees. The first apples exported from the province are said to have been shipped by sailing vessel from Halifax to Liverpool in 1849, the price realized being $2 per barrel. In 1856 a shipment of 700 barrels was made by schooner to Boston, U.S.A., the price realized being $2.75 per barrel. The first experimental commercial shipments of apples to England from the Annapolis valley were made in December, 1861, but proved disappointing. The first steamer to carry apples direct from Annapolis Royal to London was the *Neptune,* which sailed on April 2, 1881. The shipment consisted of 6,800 barrels, and arrived in London in 14 days. This venture was fairly successful, and from that time the business has continued to increase in volume. Up to 1890, however, the production of apples in Nova Scotia rarely exceeded 100,000 barrels, but after that date there were pronounced increases in acreage and production, and in 1909 the production reached 1,000,000 barrels. A record crop of about 1,900,000 barrels was produced in 1911, when 1,734,876 barrels were marketed, and further records were made in 1919, when the gross crop exceeded 2,000,000 barrels, and in 1922, when 1,891,850 barrels were packed and sold from the Annapolis valley and adjacent valleys, which comprise a district of about 100 miles long by from six to eleven miles wide.

There are records to show that in 1663 apples were being produced in the province of Quebec, and it is here that the celebrated Fameuse apple is thought to have originated. The capabilities of this province for the production of apples of the finest appearance and best quality are very great; but at present there are not sufficient apples grown for the local demand, and large quantities are therefore annually imported.

In Ontario, where the commercial production of all descriptions of fruit capable of cultivation in Canada has reached its highest development, apples have been grown from the middle of the eighteenth century; but commercial orcharding has developed only within the past 50 or 60 years, and was only made possible when the building of the railways permitted trees and fruit to be transported rapidly. The great winter apple districts include the border of lake Ontario extending back 30 miles and more from the lake, the shores of lake Huron and Georgian bay, several miles in depth, and the southwestern part of the province. Farther east and north, and including an area east of the Lake Huron district, there are large areas of land where the hardier varieties of apples are most suitable. In the Niagara fruit-growing district, besides apples, peaches, pears, plums and cherries, small fruits and grapes are produced upon a large scale. In this district the acreage of grapes has more than doubled since 1920 and is still increasing rapidly, due to the development and rapid expansion of the native wine industry; in 1929, grapes were second in importance among Canadian fruit crops and the estimated value of native wines produced, chiefly in this district, has increased from $706,000 in 1921 to $5,541,000 in 1929.

In British Columbia commercial fruit growing is of comparatively recent origin; but the development of commercial orcharding has been very rapid, especially during the post-war years. The first apple trees were planted about 1850, but not until after the completion of the Canadian Pacific Railway in 1886 were there many trees planted for commercial purposes. The census of 1891 gave the area devoted to all kinds of fruit as 6,500 acres; in 1921 the census showed a total fruit acreage of 43,569 acres in the province. The most noted fruit district is the Okanagan valley, where there are some of the finest orchards in the Dominion. The boxed apples from British Columbia are found in season on all the important markets in Great Britain and Europe. Pears, plums, peaches, apricots, cherries and small fruits are grown on a large scale.

The Fruit Marks Act, first passed by the Dominion Parliament in 1901, made the grading of commercial apples compulsory. In 1923 all previous legislation of this kind was replaced by the Fruit Act (13-14 Geo. V, c. 15), which provides for government inspection, imposes penalties for dishonest packing, and defines the grades under which the different descriptions of fruit shall be sold.

Census Statistics.—Statistics of the number of bearing and non-bearing fruit trees in 1921 were published on p. 252 of the 1925 edition, together with comparative figures for 1911 and are summarized in Table **31**; from these it may be seen that only for peaches was there an increase during the decade in the number of bearing trees. Nevertheless, when the statistics of production also collected at the census are consulted, there is evident a great increase since 1910 in the production of apples, peaches, plums and cherries. This may indicate that to-day fruit growing is on a much more scientific basis than in the past, and that the yield per bearing tree is larger because of the greater attention given to the selection of stock and the care of trees.

31.—Fruit Trees, Bearing and Non-bearing, Acreage of Small Fruits, and Fruit Production for all Canada in census years.

Kind.	Trees, bearing.		Trees, non-bearing.		Total Production.		
	1911.	1921.	1911.	1921.	1900.	1910.	1920.
	No.	No.	No.	No.	bush.	bush.	bush.
Orchard fruits—							
Apples	10,617,372	9,802,218	5,599,804	2,649,740	18,626,186	10,618,666	17,475,414
Peaches	839,288	1,021,709	1,056,359	174,513	545,415	646,826	1,076,223
Pears	581,704	501,586	385,538	172,304	531,837	504,171	521,036
Plums	1,075,130	985,267	637,220	266,889	557,875	508,994	808,369
Cherries	741,992	688,504	495,082	195,999	336,751	238,974	502,447
All other	146,659	–	141,233	–	70,396	47,789	–
Totals	**14,002,145**	**12,999,284**	**8,315,236**	**3,459,445**	**20,668,460**	**12,565,420**	**20,383,489**
Small fruits—	acres.	acres.			lb.	lb.	lb.
Grapes	9,836	7,090	–	–	24,302,634	32,898,438	33,269,412
					qt.	qt.	qt.
Strawberries	17,495	17,741	–	–	21,707,791	18,686,662	15,658,346
Raspberries						[1]	8,360,518
Currants and gooseberries						3,830,609	1,983,834
Other small fruits						9,000,208	843,407

[1] Included with other small fruits.

Annual Statistics of Fruit Production.—For each of the years 1919 to 1929, the Dominion Bureau of Statistics and the Fruit Branch of the Dominion Department of Agriculture have collected and published in co-operation statistics, (1) of the quantities and values of commercial fruits produced in Canada, and (2) of the varieties and values of fruit trees, bushes and plants sold by nurserymen in Canada. Table **32**, following, shows the estimated production and value of commercial fruits in Canada for each of the seven years 1923-1929.[1]

32.—Estimated Production and Value of Commercial Fruits in Canada, 1923-1929.

NOTE.—1930 figures are in process of compilation at the time of going to press, and will appear in the June, 1931, issue of the Monthly Bulletin of Agricultural Statistics.

Year.	Total Quantity.	Average Price.	Total Value.
Apples—	brl.	$	$
1923	3,841,625	5·45	20,959,067
1924	3,375,084	5·85	19,747,772
1925	2,913,768	5·50	16,024,165
1926	2,954,370	3·28	9,688,162
1927	2,810,600	3·70	10,411,035
1928	3,235,970	3·49	11,297,867
1929	3,870,380	2·70	10,461,075
Pears—	bush.		
1923	227,335	2·42	550,587
1924	196,809	2·40	471,924
1925	156,422	2·13	332,735
1926	266,440	1·79	475,698
1927	332,200	2·00	663,730
1928	255,430	1·85	473,246
1929	348,688	1·88	654,401
Plums and prunes—			
1923	348,482	2·00	696,964
1924	238,978	2·11	504,460
1925	79,562	1·94	154,288
1926	346,800	1·30	450,840
1927	263,200	1·80	473,780
1928	480,010	1·28	615,890
1929	285,460	2·05	584,261
Peaches—			
1923	403,660	2·27	916,050
1924	154,384	2·62	404,663
1925	201,840	2·71	547,772
1926	237,950	2·54	603,658
1927	347,580	3·03	1,051,765
1928	605,770	1·98	1,200,345
1929	672,541	2·51	1,684,746
Apricots—			
1925	4,202	4·75	19,960
1926	56,650	2·25	127,462
1927	18,000	3·74	67,250
1928	36,210	2·48	89,800
1929	33,341	3,47	115,693
Cherries—	bush.	$	$
1923	203,125	3·56	722,440
1924	100,340	3·36	337,775
1925	114,925	3·56	409,210
1926	201,640	2·86	577,040
1927	216,800	3·62	784,470
1928	271,250	3·08	836,137
1929	253,799	3·38	856,912
Strawberries—	quart.		
1923	8,652,200	0·17	1,513,230
1924	7,932,000	0·18	1,398,910
1925	8,330,000	0·18	1,460,650
1926	9,739,000	0·14	1,402,830
1927	10,946,200	0·14	1,516,145
1928	11,364,740	0·13	1,426,990
1929	14,415,344	0·12	1,796,528
Raspberries—			
1923	4,496,840	0·23	1,044,001
1924	2,000,450	0·20	401,012
1925	1,962,000	0·21	405,840
1926	4,744,500	0·15	702,330
1927	5,232,700	0·15	784,000
1928	4,306,860	0·17	728,641
1929	5,021,424	0·18	886,620
Other Berries—			
1923	2,527,700	0·20	494,691
1924	2,532,000	0·19	500,020
1925	2,700,000	0·21	524,000
1926	4,195,000	0·11	476,550
1927	3,737,000	0·13	471,420
1928	3,324,340	0·12	390,617
1929	4,603,703	0·12	533,864
Grapes—	lb.		
1923	42,185,077	0·06	2,742,030
1924	24,500,000	0·06	1,470,000
1925	24,000,000	0·07	1,680,000
1926	24,000,000	0·03	720,000
1927	34,560,000	0·04	1,382,400
1928	69,120,000	0·04	2,764,800
1929	50,426,000	0·04	2,017,040

Tree Nursery Industry.—The first Canadian commercial nursery was established near Fonthill, Ont., and it was followed within a few years by the establishment of a nursery in Toronto by a Rochester, N.Y., firm. Since that time the industry has steadily spread as the country has developed, until to-day there are approximately 170 firms growing or dealing in nursery stock of all kinds, including fruit trees. Canadian nurserymen have made great advancement in the type and hardiness of stock used for grafting and budding purposes, greatly enhancing the resistance of the trees against winter injury, an important factor in Canadian orcharding. The great problem of mixing varieties has been solved by the recent investigations carried out by the various experimental stations, leading to a system of identifying the different varieties in the nursery row. Identification of the varieties of apples has proved possible of accomplishment by any person after a few months' study of the varietal characteristics, while other fruits under study, such as peaches and pears, are proving equally easy to identify.

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[1] Reports of fruit production have been published in pamphlet form by the Dominion Bureau of Statistics in 1922, 1924, 1925, 1926, 1927, 1928 and 1929.The first report for the year 1919 was published in the Monthly Bulletin of Agricultural Statistics, August, 1920, pp. 211-222.

Table **33** shows the total numbers and values of fruit trees, bushes and plants sold by nurserymen for the four years 1926-29. For 1919 and 1920, see the Canada Year Book of 1921, p. 257; for 1921 and 1923, see the Canada Year Book of 1926, p. 241; and for 1924 and 1925, see the Canada Year Book of 1929, p. 257.

33.—Numbers and Values of Fruit Trees, Bushes and Plants, Sold by Nurserymen in Canada, years ended May 31, 1926-29.

Description of Tree, Bush or Plant.	Number Sold.				Total Value.			
	1926.	1927.	1928.	1929.	1926.	1927.	1928.	1929.
	No.	No.	No.	No.	$	$	$	$
Apples—								
Early	47,750	54,682	65,677	52,850	21,549	23,698	26,138	20,295
Fall	74,817	83,543	73,742	62,892	30,780	36,176	29,590	23,014
Winter	240,149	174,828	182,775	151,503	84,884	66,928	66,530	51,824
Crab apples	15,518	23,090	19,614	18,702	7,526	8,644	6,279	6,188
Totals, Apples	378,234	336,143	341,808	285,947	144,739	135,446	128,537	101,321
Pears	46,974	40,260	39,403	34,863	24,695	19,148	19,495	15,340
Plums	62,866	54,474	58,388	57,693	29,327	21,148	22,972	21,263
Peaches	90.035	103,872	103,837	88,180	23,751	24,300	24,695	22,200
Cherries	60,233	60,517	58,780	51,752	34,066	29,365	29,106	25,840
Apricots	6,297	1,022	2,009	312	2,879	509	786	154
Quinces	262	143	609	72	115	59	218	30
Blackberries	39,357	28,092	35,462	40,825	2,465	1,846	1,731	2,279
Currants	109.512	151,312	116,858	92,901	12,342	13.551	9,514	8,923
Grapes	258,746	302,059	599,617	750,083	22,667	20,590	38,197	47,788
Gooseberries	58,236	74,294	70,297	39,859	11,579	12,179	12,124	6,740
Raspberries	658,869	535,975	547,524	506,290	36,229	18,747	29,677	27,267
Logan berries	1,178	1,372	3,024	2,155	111	159	258	198
Strawberries	1,784,865	2,036,882	2,235,700	2,004.258	23,568	20,614	38,227	17,833
Totals	–	–	–	–	**368,533**	**317,661**	**355,537**	**297,175**

Floriculture.—Data collected at the 1921 census show that in that year 9,957,243 square feet were under glass in greenhouse and hothouse establishments, which also possessed 3,126 acres not under glass. The receipts of these establishments in that year totalled $4,026,427, of which $2,778,473 or 69 p.c. were for flowers and flowering plants and $1,247,954 or 31 p.c. for vegetables and vegetable plants. According to a recent survey, provisional figures indicate an area under glass in 1928 of 15,764,234 square feet. The production and value of floricultural and decorative plants grown in Canada and sold during the year ended May 31, 1929, was ascertained by this survey to have been $2,542,490 as indicated by Table **34.**

34.—Production and Value of Floricultural and Decorative Plants Grown in Canada and Sold during the year ended May 31, 1929.

Description.	Quantity Sold.	Average Wholesale Price per Unit.	Total Wholesale Value.	Description.	Quantity Sold.	Average Wholesale Price per Unit.	Total Wholesale Value.
	No.	$	$		No.	$	$
1. Outdoor roses..	364,661	0·30	110,691	5. Flowering bulbs.	1,970,830	0·04	73,435
2. Perennial and annual plants....	591,445	0·10	56,544	6. Cut flowers.....	23,964,789	–	1,550,649
3. Indoor plants...	957,378	–	318,230	7. All other varieties including the above grown outdoors............	–	–	412,012
4. Other ornamental plants.........	79,670	0·26	20,929	**Total**.........	–	–	**2,542,490**

Subsection 7.—Special Agricultural Crops.

Maple Syrup and Sugar.—The Canada Year Book, 1924, contained a description of the process of maple sugar-making on pages 247 and 248. Table 35 gives the production and value of maple sugar and syrup in Canada for the years 1928, 1929 and 1930, as estimated by the Dominion Bureau of Statistics.[1]

35.—Estimated Production and Value of Maple Sugar and Maple Syrup in Canada, by Provinces, 1928-1930.

Province and Year.		Maple Sugar.			Maple Syrup.			Total Value of Sugar and Syrup.
		Quantity.	Average Price per lb.	Value.	Quantity.	Average Price per Gallon.	Value.	
		lb.	cents.	$	gallons.	$	$	$
Canada..................	**1928**	**13,798,109**	**16**	**2,269,686**	**1,686,583**	**1·97**	**3,314,902**	**5,584,588**
	1929	**11,698,925**	**18**	**2,162,839**	**2,174,084**	**1·82**	**3,955,817**	**6,118,656**
	1930	**8,208,276**	**17**	**1,381,513**	**2,185,370**	**1·77**	**3,969,107**	**5,250,620**
Nova Scotia.............	1928	86,330	35	30,216	10,987	2·63	28,896	59,112
	1929	106,242	34	36,122	8,015	2·49	19,957	56,079
	1930	82,894	33	27,355	3,464	2·54	8,799	36,154
New Brunswick..........	1928	51,570	27	13,924	8,415	2·20	18,513	32,437
	1929	54,070	29	15,683	9,208	2·42	22,283	37,966
	1930	66,711	32	21,348	2,725	2·08	5,668	27,016
Quebec..................	1928	13,090,029	16	2,094,405	909,646	1·66	1,510,012	3,604,417
	1929	11,112,534	18	2,000,256	1,666,880	1·73	2,767,021	4,767,277
	1930	7,576,204	16	1,212,193	1,538,199	1·56	2,399,590	3,611,783
Ontario..................	1928	570,180	23	131,141	757,535	2·32	1,757,481	1,888,622
	1929	426,070	26	110,778	489,981	2·34	1,146,556	1,257,334
	1930	482,467	25	120,617	640,991	2·27	1,455,050	1,575,667

The table shows that for the whole of Canada there was an estimated decrease of 3,490,649 lb. of maple sugar, an increase of 11,286 gal. of maple syrup and a decrease of $868,036 in the combined value of the two products in 1930 as compared with 1929.

Sugar Beets and Beetroot Sugar.—A brief account of the development of the beetroot sugar industry in Canada will be found in the Canada Year Book, 1925, pp. 255-256. At the present time two companies are operating in Canada, the Canada and Dominion Sugar Co., Ltd., with factories at Chatham and Wallaceburg in Ontario, and the Canadian Sugar Factory, Ltd., with a plant at Raymond, Alberta.

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[1] For details see Monthly Bulletin of Agricultural Statistics for June, 1930, pp. 192-193.

Table **36** shows the area, yield and value of sugar beets grown in Canada in the years 1911-1929.

36.—Area, Yield and Value of Sugar Beets in Canada and Production of Refined Beetroot Sugar, 1911-1929.

(Production contracted for by factories.)

Year.	Area Grown.	Yield per Acre.	Total Yield.	Average Price per Ton.	Total Value.	Production of Refined Beetroot Sugar.
	acres.	tons.	tons.	$	$	lb.
1911	20,677	8·50	175,000	6·59	1,154,000	21,329,689
1912	18,900	10·50	201,000	5·00	1,005,000	26,767,287
1913	17,000	8·75	148,000	6·12	906,000	26,149,216
1914	12,100	9·00	108,600	6·00	651,000	31,314,763
1915	18,000	7·75	141,000	5·50	775,500	39,515,802
1916	15,000	4·75	71,000	6·20	440,000	17,024,377
1917	14,000	8·40	117,600	6·75	793,800	23,376,850
1918	18,000	11·25	204,000	12·71	2,593,715	50,092,835
1919	18,800	9·50	180,000	14·61	2,630,027	37,839,271
1920	34,491	9·94	343,000	15·47	5,307,243	89,280,719
1921	25,535	7·80	199,334	9·90	1,974,384	52,862,377
1922	14,955	8·55	127,807	7·56	966,521	29,911,770
1923	17,941	8·87	159,200	12·08	1,922,668	39,423,160
1924	31,111	9·50	295,177	5·78	1,704,791	85,770,709
1925	34,803	10·63	370,047	7·27	2,688,302	72,819,919
1926	30,073	8,90	267,754	8·54	2,286,761	70,388,105
1927	25,961	7·96	206,713	9·73	2,012,134	60,969,131
1928	34,323	7·14	244,930	8·33	2,041,465	64,653,348
1929	32,556	7·23	235,465	8·84	2,080,996	69,399,213

At the estimated average wholesale price of 4·81c. per lb., the total value of the beetroot sugar produced in 1929 is $3,335,344, as compared with 5·17c. per lb. and $3,340,571 in 1928, 6·06c. per lb. and $3,694,303 in 1927, 6·1c. per lb. and $4,269,076 total value in 1926, and 7·1c. per lb. and $5,206,624 total value in 1925.

The estimated production of sugar beets in the principal beet-sugar producing countries of the world was, in 1929, 66 million short tons from 7,355,660 acres. The production in 1929 of the largest beet-growing countries was, in thousands of short tons, as follows:—Germany, 12,256; Russia, 9,282; United States 7,691; Czechoslovakia, 6,861; France, 5,924; Poland, 5,492; Italy, 3,160; Netherlands, 2,277; Great Britain, 2,249; Hungary, 1,776; Belgium, 1,735; Roumania, 986; Denmark, 1,002.

Tobacco.[1]—According to the census, the total area under tobacco in 1921 was 16,628 acres. Statistics for 1929 show an acreage of 43,138. The farm value of the crop, amounting to $4,358,898 in 1924, $7,002,400 in 1925 and $7,379,480 in 1926 showed an increase to $9,112,278 in 1927, a decrease to $6,833,511 in 1928, a further decrease to $6,276,133 in 1929 and to $7,050,457 in 1930.

Table **37** summarizes the acreages, the average yields per acre and the total yields of tobacco in Canada, also for the provinces of Quebec and Ontario, for the census years 1900 and 1910 and continuously from 1920 to 1930. For the years 1911 and 1921 the census figures for the acreage alone are also given. In Quebec the estimated yield of 943 lb. per acre has been exceeded only once, *viz.*, in 1921 when it was 1,166 lb. per acre. In Ontario and in Canada as a whole the preliminary figures for 1930 exceeded those of 1929 by 9·8 p.c. and 7·8 p.c. respectively. Yields in 1929, except in Quebec, were very low and this, following on the low prices obtained for the crop in 1928, was discouraging to the industry. While yields have been substantially better in 1930, the prices except for the higher grade cigarette tobaccos have been downward compared with 1929, and this trend has been more pronounced in Quebec than in Ontario.

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[1] For further details, see Monthly Bulletin of Agricultural Statistics for March, 1930, pp. 75-77.

37.—Area and Yield of Tobacco in Canada, by Provinces, 1900, 1910, 1911 and 1920-30.

Year.	Quebec.	Ontario.	Canada.[2]	Quebec.	Ontario.	Canada.[2]	Quebec.	Ontario.	Canada.[2]
	acres.	acres.	acres.	000 lb.	000 lb.	000 lb.	lb. per acre.	lb. per acre.	lb. per. acre.
1900[1]	8,661	3,144	11,906	7,565	3,504	11,267	881	1,114	946
1910[1]	11,818	7,017	18,928	10,115	7,499	17,632	856	1,068	931
1911[1]	12,134	13,591	25,826	–	–	–	–	–	–
1920[1]	17,252	19,621	36,891	13,366	19,279	32,660	775	983	883
1921[1]	9,958	6,663	16,628	–	–	–	–	–	–
1921	5,256	6,553	11,809	6,127	7,122	13,249	1,166	1,091	1,124
1922	16,573	9,189	25,762	14,916	11,032	25,948	900	1,201	1,007
1923	15,302	8,630	23,932	10,500	21,297	10,.97	680	1,251	890
1924	8,044	13,273	21,317	6,576	12,135	18,711	817	914	878
1925	9,554	18,261	27,825	8,632	20,623	29,266	910	1,130	1,052
1926	9,808	23,493	33,356	8,693	20,064	28,824	886	854	864
1927	10,018	33,650	44,028	7,824	35,622	43,910	769	1,095	997
1928	10,368	32,654	43,138	8,546	33,266	41,976	824	1,019	972
1929	9,300	26,910	36,310	8,380	27,419	29,886	901	795	823
1930[3]	9,000	32,170	41,391	8,490	28,078	36,713	943	873	887

[1] Census data. [2] The totals for Canada include small amounts produced in other provinces, principally in British Columbia. [3] Preliminary figures.

Onions.—Table **38** shows the area and commercial production of onions in Canada for each of the years 1927 to 1930, as estimated by the Fruit Branch of the Department of Agriculture.

38.—Area and Commercial Production of Onions in Canada, 1927-1930.

Province.	1927.		1928.		1929.		1930.[1]	
	acres.	tons.	acres.	tons.	acres.	tons.	acres.	tons.
Quebec	247	1,219	300	3,000	495	2,475	775	3,875
Ontario	1,580	15,800	1,618	8,737	1,258	10,940	1,474	18,090
British Columbia	1,233	8,230	1,135	11,536	1,393	13,580	1,230	10,366
Totals	**3,060**	**25,249**	**3,053**	**23,273**	**3,146**	**26,995**	**4,479**	**32,331**

[1] Preliminary figures.

Flax Fibre.—Table **39**, compiled from information furnished by the Economic Fibre Division of the Dominion Experimental Farms, shows the area, production and value of flax fibre and allied products in Canada for each of the years 1915 to 1930.

39.—Area, Production and Value of Flax Fibre, etc., in Canada, 1915-1930.

Year.	Area.	Production.			Values.			
		Seed.	Fibre.	Tow.	Seed.	Fibre.	Tow.	Total.
	acres.	bush.	lb.	tons.	$	$	$	$
1915	4,000	48,000	1,600,000	80	76,800	320,000	2,800	399,600
1916	5,200	25,000	600,000	75	75,000	180,000	15,000	270,000
1917	8,000	72,000	2,800,000	–	396,000	1,540,000	–	1,936,000
1918	20,000	110,000	6,200,000	900	930,769	1,085,000	270,000	2,235,769
1919	20,262	90,000	4,416,000	1,162	967,500	3,975,400	581,000	4,942,900
1920	31,300	217,000	7,440,000	1,860	434,000	5,952,000	744,000	7,130,000
1921	6,515	52,120	1,824,200	372	469,080	1,550,570	148,800	2,168,450
1922	1,200	10,800	360,000	96	21,600	72,000	11,520	105,120
1923	3,300	20,000	272,650	74¼	50,000	111,375	4,440	165,815
1924	5,760	69,120	1,785,600	18¾	172,800	535,500	3,750	712,050
1925	6,200	68,200	1,440,000	2,325	136,400	201,600	116,250	454,250
1926	4,025	48,300	–	2,075	96,600	–	111,250	207,850
1927	4,260	36,080	–	4,260	108,240	–	213,000	321,240
1928	6,880	41,280	–	6,880	165,120	–	344,000	509,120
1929	6,280	32,970	–	4,500	156,607	–	236,250	392,857
1930	6,143	62,232	–	6,086	96,684	–	273,870	370,554

The area sown to flax for fibre in Canada for the year 1930 was 6,143 acres, of which about 4,843 acres were in the province of Ontario.

Hives and Honey.—A table on page 277 of the 1925 Year Book shows the production and value of honey and beeswax in 1920, according to the census of 1921. The principal honey-producing provinces were Ontario and Quebec, which between them produced in 1920 more than 94 p.c. of the recorded total of 6,461,450 lb., valued at $1,633,251.

There are at present no uniform annual statistics of hives and honey for all the provinces, but a synopsis of the existing provincial estimates for recent years was given in the Monthly Bulletin of Agricultural Statistics for March, 1930, pp. 77-80. These estimates showed a large increase since 1920, the total estimated honey production in 1929 being about 30,979,000 lb. and the average value per lb. 11 cents.

Subsection 8.—Farm Labour and Wages.

Average Wages of Farm Help.—The average wages paid to farm helpers in Canada for the year 1930 show a considerable decrease compared with 1929. The cost of farm labour reached its highest point in 1920. In the next two years there was a rapid drop, so that the average of yearly wages including board for male help in 1922 was nearly 28 p.c. less than in 1920. Since 1922 the trend has been slightly upward, the average for 1925 representing an increase of 8 p.c. in the three years. In 1926 there was a very slight reduction, followed by increases in 1927 and 1928, and a slight decrease in 1929. In 1930, however, there was a decided reduction in the average of yearly wages and board, amounting to 11 p.c. for men and 12 p.c. for women.

In Table 40 the value of wages and board is given for the years 1914, 1920, 1925, 1928, 1929 and 1930, both for the summer season and for the year, distinction being made in all cases between wages and board.

40.—Average Wages and Board of Farm Help in Canada, as Estimated by Crop Correspondents, 1914, 1920, 1925, 1928, 1929 and 1930.

NOTE.—M=Males. F=Females.

Province.	Year.	Per Month in Summer Season.						Per Year.					
		Wages.		Board.		Wages and Board.		Wages.		Board.		Wages and Board.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
		$	$	$	$	$	$	$	$	$	$	$	$
Canada	1914	21	8	14	11	36	19	155	57	168	132	323	189
	1920	60	27	26	20	86	47	543	275	278	217	821	492
	1925	40	22	23	19	63	41	383	244	258	218	641	462
	1928	40	24	23	20	63	44	382	251	252	225	634	476
	1929	40	23	23	20	63	43	373	242	254	223	627	465
	1930	34	20	22	18	56	38	326	210	233	199	559	409
P.E. Island	1914	15	5	10	8	25	13	101	40	120	96	221	136
	1920	42	18	18	14	60	32	371	212	201	160	572	272
	1925	31	18	16	13	47	31	293	175	176	138	469	313
	1928	32	18	17	13	49	31	310	198	203	157	513	355
	1929	34	19	18	13	52	32	327	196	207	159	534	355
	1930	32	16	18	14	50	30	308	179	205	165	513	344
Nova Scotia	1914	20	7	11	8	31	15	169	59	132	96	301	155
	1920	49	21	24	17	73	38	472	218	263	190	735	408
	1925	36	18	20	15	56	33	347	199	221	161	568	360
	1928	34	17	19	15	53	32	359	200	208	163	567	363
	1929	38	19	19	15	57	34	383	212	222	179	605	391
	1930	34	17	20	14	54	31	353	187	209	157	562	344

40.—Average Wages and Board of Farm Help in Canada, as Estimated by Crop Correspondents, 1914, 1920, 1925, 1928, 1929 and 1930—concluded.

Note.—M=Males. F=Females.

Province.	Year.	Per Month in Summer Season.						Per Year.					
		Wages.		Board.		Wages and Board.		Wages.		Board.		Wages and Board.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
		$	$	$	$	$	$	$	$	$	$	$	$
New Brunswick	1914	21	7	11	8	32	15	170	69	132	96	302	165
	1920	56	19	23	16	79	35	531	213	254	178	785	391
	1925	37	18	17	13	54	31	370	210	191	151	561	361
	1928	40	18	19	15	59	33	390	204	212	169	602	373
	1929	40	18	20	15	60	33	375	198	214	169	589	367
	1930	34	16	20	15	54	31	335	181	215	164	550	345
Quebec..........	1914	21	7	13	9	34	16	140	44	156	108	296	152
	1920	62	24	24	16	86	40	524	235	243	172	767	407
	1925	37	19	19	13	56	32	340	190	196	141	536	331
	1928	39	19	19	14	58	33	366	202	206	146	572	348
	1929	41	19	20	14	61	33	369	191	208	151	577	342
	1930	33	17	19	13	52	30	315	175	194	139	510	314
Ontario.........	1914	19	7	13	10	32	17	141	52	156	120	297	172
	1920	52	25	23	19	75	44	474	259	262	211	736	470
	1925	34	22	20	17	54	39	326	227	222	182	548	409
	1928	36	23	22	18	58	41	348	254	244	199	592	453
	1929	35	22	22	19	57	41	341	242	254	212	595	454
	1930	31	21	20	17	51	38	304	229	228	194	532	423
Manitoba........	1914	24	9	15	13	39	22	184	70	180	156	364	226
	1920	70	34	28	24	98	58	650	312	325	247	975	559
	1925	38	21	22	19	60	40	357	221	260	215	617	436
	1928	38	21	23	20	61	41	353	226	258	225	611	451
	1929	38	21	23	19	61	40	352	222	256	216	608	438
	1930	32	18	21	18	53	36	298	194	238	204	536	398
Saskatchewan..	1914	24	9	17	14	41	23	162	67	204	168	366	235
	1920	72	35	30	25	102	60	667	364	336	289	1,003	653
	1925	42	22	24	21	66	43	396	257	268	234	664	491
	1928	44	25	25	22	69	47	411	262	284	237	695	499
	1929	44	24	25	22	69	46	398	256	287	240	685	496
	1930	37	21	23	19	60	40	340	215	253	212	593	427
Alberta..........	1914	24	10	16	14	40	24	173	68	192	168	365	236
	1920	76	36	31	26	107	62	697	360	341	278	1,038	638
	1925	44	27	24	22	68	49	421	277	280	244	701	521
	1928	46	26	26	23	72	49	450	280	295	262	745	542
	1929	43	25	25	21	68	46	404	253	274	232	678	485
	1930	37	21	23	20	60	41	342	223	256	222	598	445
British Columbia.....	1914	27	13	21	18	48	31	208	108	252	216	460	324
	1920	64	36	31	27	95	63	684	431	349	311	1,033	742
	1925	46	26	26	21	72	47	470	282	300	232	770	514
	1928	50	29	27	23	77	52	501	320	305	268	806	588
	1929	49	28	27	23	76	51	482	291	310	271	792	562
	1930	46	25	26	21	72	46	450	270	291	242	741	512

Subsection 9.—Prices of Agricultural Produce.

The average monthly cash prices of representative grades of Canadian wheat, oats, barley, flax and rye in the Winnipeg market, basis in store at Fort William and Port Arthur, will be found for each month from January, 1928, to December, 1930, in Table **41**, where the general downward trend in prices over the latest twelve months is particularly noticeable. The average yearly prices of British-grown wheat, barley and oats in the home market are furnished in Table **42**; in this table British currency is converted into Canadian currency at par of exchange (£=$4.86⅔). The average monthly prices of flour, bran and shorts at Montreal, Toronto, Winnipeg, Minneapolis and Duluth are given for 1930 in Table **43**.

The yearly average prices per cwt. of Canadian live stock at Toronto, Montreal, Winnipeg and Edmonton are given for the years 1927, 1928 and 1929 in Table **44**, and the average monthly prices in 1930 at these centres and at Calgary in Table **45**.

41.—Monthly Average Cash Prices per Bushel at Winnipeg of Representative Grades of Canadian Wheat, Oats, Barley, Flax and Rye, basis in store at Fort William and Port Arthur, 1928-1930, and Yearly Average Prices for crop years ended July 31, 1926-1930.

Note.—For similar figures for 1923-26, see p. 247 of the 1926 Year Book.

Month.	Wheat, No. 1 N.	Oats, No. 2 C.W.	Barley, No. 3 C.W.	Flaxseed No. 1 N.W.C.	Rye, No. 2 C.W.
	cts.	cts.	cts.	cts.	cts.
1928.					
January	142·8	62·3	83·3	183·0	102·9
February	142·3	64·0	86·3	183·5	105·0
March	148·1	68·1	91·3	190·3	116·1
April	156·5	72·1	93·1	194·0	129·6
May	157·0	74·9	91·6	200·5	134·8
June	142·6	64·9	89·3	197·0	118·3
July	130·9	59·0	83·0	186·5	105·0
August	118·8	52·3	68·9	182·0	95·0
September	117·0	54·9	66·3	186·3	94·8
October	123·8	56·4	70·1	192·8	104·6
November	120·9	56·4	68·4	195·9	104·1
December	117·1	58·1	66·4	190·8	101·5
1929.					
January	120·9	68·1	72·9	192·0	103·3
February	127·9	73·1	77·8	204·8	112·4
March	127·0	64·3	74·8	207·5	109·0
April	122·8	57·9	71·6	202·6	99·9
May	113·3	50·0	67·3	205·6	86·5
June	118·3	51·1	69·8	212·0	87·4
July	159·9	63·1	83·4	254·4	110·5
August	158·0	68·1	79·0	260·8	111·5
September	149·5	68·5	74·8	283·8	108·1
October	141·4	68·0	69·8	291·0	102·1
November	133·3	65·6	64·9	271·9	94·0
December	137·8	63·5	62·1	264·0	94·0
1930.					
January	130·1	59·5	56·8	251·9	85·4
February	117·4	59·5	50·8	250·0	72·6
March	106·3	55·6	46·6	244·0	60·5
April	109·9	53·9	48·9	243·0	66·1
May	108·0	49·9	44·9	219·3	62·0
June	103·3	47·6	39·4	211·6	53·8
July	95·1	43·9	39·1	178·9	52·4
August	92·5	40·3	39·0	162·4	55·1
September	78·1	33·1	31·6	143·5	42·5
October	72·5	32·9	28·3	129·3	37·4
November	64·4	28·3	23·4	105·3	30·6
December	55·4	26·8	25·0	97·9	30·3
Averages for crop year ended July, 1926	**151·2**	**49·6**	**63·9**	**213·8**	**89·8**
Averages for crop year ended July, 1927	**146·2**	**58·8**	**72·7**	**195·0**	**99·7**
Averages for crop year ended July, 1928	**146·3**	**65·2**	**85·3**	**189·9**	**129·9**
Averages for crop year ended July, 1929	**124·0**	**58·8**	**71·4**	**202·2**	**100·7**
Average for crop year ended July, 1930	**124·2**	**58·6**	**60·0**	**247·5**	**80·2**

42.—Yearly Average Prices of Home-Grown Wheat, Barley and Oats in England and Wales, 1902-1929.

SOURCE:—London *Gazette*, published pursuant to Sec. 8 of the Corn Returns Act, 1882, and the Corn Sales Act, 1921.

NOTE.—By the Corn Sales Act, 1921, the legal unit was changed from quarters of 8 bushels to long cwt., the change becoming compulsory on Jan. 1, 1923. The long cwt. is 112 lb.

Year.	Wheat.		Barley.		Oats.		Year.	Wheat		Barley.		Oats.	
	per qr.	per bush.	per qr.	per bush.	per qr.	per bush.		per qr.	per bush.	per qr.	per bush.	per qr.	per bush.
	s. d.	$	s. d.	$	s. d.	$		s. d.	$	s. d.	$	s. d.	$
1902	28 1	0·85	25 8	0·78	20 2	0·61	1916	58 5	1·78	53 6	1·56	33 5	0·89
1903	26 9	0·81	22 8	0·69	17 2	0·52	1917	75 9	2·30	64 9	1·89	49 10	1·32
1904	28 4	0·86	22 4	0·68	16 4	0·50	1918	72 10	2·22	59 0	1·72	49 4	1·31
1905	29 8	0·90	24 4	0·74	17 4	0·53	1919	72 11	2·22	75 9	2·21	52 5	1·39
1906	28 3	0·86	24 2	0·73	18 4	0·56	1920	80 10	2·46	89 5	2·60	56 10	1·51
1907	30 7	0·93	25 1	0·76	18 10	0·57	1921	71 6	2·17	52 2	1·52	34 2	0·90
1908	32 0	0·97	25 10	0·79	17 10	0·54	1922	47 11	1·46	40 3	1·18	29 1	0·77
1909	36 11	0·82	26 10	0·82	18 11	0·58		per long cwt.	per bush.	per long cwt.	per bush.	per long cwt.	per bush.
1910	31 8	0·96	23 1	0·70	17 4	0·53							
1911	31 8	0·96	27 3	0·83	18 10	0·57	1923	9 10	1·28	9 5	0·98	9 7	0·71
1912	34 9	1·06	30 8	0·93	21 6	0·65	1924	11 6	1·50	13 1	1.36	9 9	0·72
1913	31 8	0·96	27 3	0·83	19 1	0·58	1925	12 2	1·59	11 9	1·23	9 9	0·72
1914	34 11	1·06	27 2	0·83	20 11	0·64	1926	12 5	1·62	10 4	1·08	9 0	0·66
1915	52 10	1·61	37 4	1·13	30 2	0·92	1927	11 6	1·50	11 10	1·23	9 2	0·68
							1928	10 2	1·32	11 1	1·15	10 5	0·69
							1929	9 11	1·29	10 0	1·05	8 10	0·66

43.—Monthly Average Prices of Flour, Bran and Shorts at Principal Markets, 1930.

SOURCES:—For Montreal, the *Gazette*; for Toronto, dealers' quotations; for Winnipeg and U.S. cities the *Northwestern Miller*, Minneapolis.

NOTE.—The ton=2,000 lb. and the barrel=196 lb.

Month.	Montreal.				Toronto.			
	Flour First Patents.	Flour, Ontario, Delivered at Montreal.	Bran.	Shorts.	First Patents Flour (Jute bags).	First Patents Flour (Cotton bags).	Bran.	Shorts.
	per brl.	per brl.	per ton.	per ton.	per brl.	per brl.	per ton.	per ton.
	$	$	$	$	$	$	$	$
January	8·44[1]	5·84	35·25	37·25	8·44[1]	8·55	35·00	37·00
February	8·20[1]	5·60	34·87	36·87	8·20[1]	8·35	34·50	36·50
March	7·92[1]	5·43	31·94	33·94	7·92[1]	8·05	31·80	33·80
April	7·90[1]	5·33	32·85	34·05	7·90[1]	7·75	33·00	34·00
May	7·59[1]	5·31	32·40	33·81	7·59[1]	7·35	31·75	33·00
June	7·23[1]	—	27·21	29·21	7·23[1]	7·35	26·80	28·80
July	6·79[1]	5·00	24·77	25·77	6·79[1]	6·95	24.50-24.75	25.75-26.00
August	6·74[1]	4·56	27·93	28·93	6·74[1]	6·85	27·25	28·25
September	6·13[1]	4·14	24·45	25·45	6·13[1]	6·25	24·60	25·60
October	6·03[1]	3·93	21·25	22·25	6·03[1]	6·15	21·00	22·00
November	5·68[1]	3·90	20·37	21·37	5·63[1]	5·85	20·25	21·25
December	5·32[1]	3·80	20·69	21·25	5·32[1]	5·55	20·40	21·00

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[1] Carload lots—Montreal rate points, which included the Toronto district also.

43.—Monthly Average Prices of Flour, Bran and Shorts at Principal Markets, 1930—concluded.

SOURCES:—For Montreal, the *Gazette*; for Toronto, dealers' quotations; for Winnipeg and U.S. cities, the *Northern Miller*, Minneapolis.

NOTE.—The ton=2,000 lb. and the barrel=196 lb.

Month.	Winnipeg.			Minneapolis.			Duluth.
	Flour.	Bran.	Shorts.	Flour.	Bran.	Shorts.	Flour.
	per brl. $	per ton. $	per ton. $	per brl. $	per ton. $	per ton. $	per brl. $
January	8·75	32·00	32·00	6·90—7·33	26·13—26·50	26·25—26·75	7·50—7·75
February	8·15	30·00	32·00	6·53—6·90	24·37—24·75	24·25—24·62	7·10—7·35
March	7·73	30·00	32·00	6·36—6·74	22·90—23·20	22·40—22·90	7·02—7·27
April	7·65	30·00	32·00	6·20—6·59	26·75—27·37	26·38—26·88	6·66—6·90
May	7·50	29·50	31·00	6·11—6·51	24·38—24·75	24·63—25·00	6·18—6·43
June	7·27	26·40	28·40	5·90—6·32	21·30—21·60	22·00—22·20	5·96—6·21
July	6·95	23·00	25·00	5·64—6·04	19·13—20·13	20·13—20·63	5·63—5·88
August	7·00	23·00	25·00	5·56—5·89	23·62—24·00	24·62—25·00	5·65—5·90
September	6·21	21·80	24·20	5·28—5·56	21·50—21·70	22·40—22·70	5·48—5·73
October	5·85	19·00	21·00	5·22—5·46	19·75—20·25	19·25—20·00	5·32—5·58
November	5·61	16·60	18·60	5·01—5·26	17·70—17·90	17·70—17·90	4·93—5·13
December	5·33	16·00	16·00	5·11—5·47	16·60—16·90	16·60—16·90	5·06—5·25

44.—Yearly Average Prices per Cwt. of Canadian Live Stock at Principal Markets, 1927-1929.

SOURCE:—Markets Intelligence Division, Live Stock Branch, Dominion Department of Agriculture.

Classification.	Toronto.			Montreal.		
	1927.	1928.	1929.	1927.	1928.	1929.
	$	$	$	$	$	$
Steers—heavy finished	8·27	10·80	10·17	9·44	10·47	10·62
Steers—1,000-1,200 lb., good	8·20	10·48	10·16	8·07	10·24	9·86
Steers—1,000-1,200 lb., common	7·20	9·39	8·67	7·28	9·13	8·71
Steers—700-1,000 lb., good	7·94	10·12	9·95	7·88	10·20	9·63
Steers—700-1,000 lb., common	7·04	9·07	8·54	6·49	8·48	7·66
Heifers, good	7·92	10·01	9·90	7·37	9·07	8·73
Heifers, fair	7·23	9·37	9·09	6·53	8·12	7·75
Heifers, common	6·40	8·37	7·78	5.36	6·51	6·19
Cows, good	6·14	7·97	7·86	6·32	7·83	7·84
Cows, common	4·88	6·60	6·43	4·63	5·87	6·09
Bulls, good	5·81	7·71	7·77	6·00	7·39	7·58
Bulls, common	4·61	6·46	6·28	4·07	5·80	5·66
Canners and cutters	3·08	4·38	3·94	3·13	4·05	3·83
Calves, veal	10·44	14·13	15·05	8·75	10·83	11·16
Calves, grass	5·62	7·17	6·57	5·08	6·36	6·45
Stockers—450-800 lb., good	6·50	8·93	8·09	–	–	–
Stockers—450-800 lb., fair	5·83	7·75	7·12	–	–	–
Feeders—800-1,000 lb., good	7·02	9·41	8·26	–	–	–
Feeders—800-1,000 lb., fair	6·29	8·55	7·59	–	–	–
Hogs (weighed off cars), select bacon	11·05	11·09	12·86	11·18	11·00	12·73
Hogs (weighed off cars), thick, smooth	10·35	10·51	12·33[1]	10·72	11·00	12·93[1]
Hogs (weighed off cars), heavies	9·65	10·03	12·13	10·61	11·00	12·50
Hogs (weighed off cars), shop	9·36	9·44	11·19[1]	10·55	11·00	12·70[1]
Hogs (weighed off cars), sows, No. 1	7·58	8·04	9·79	8·00	9·62	10·39
Hogs (weighed off cars), stags	4·89	4·98	6·70	5·08	–	–
Lambs, good	12·31	13·10	12·68	10·23	11·92	11·23
Lambs, common	10·47	10·88	10·36	10·23	10·85	8·72
Sheep, heavy	5·37	6·51	6·52	6·10	6·46	6·45
Sheep, light	6·39			5·83		
Sheep, common	3·45	3·71	3·68	4·17	5·04	4·67

[1] Average, January to August, after which "thick, smooth" and "shop" classes were discontinued

44.—Yearly Average Prices per Cwt. of Canadian Live Stock at Principal Markets, 1927-1929—concluded.

SOURCE.—Markets Intelligence Division, Live Stock Branch, Dominion Department of Agriculture.

Classification.	Winnipeg.			Edmonton.		
	1927.	1928.	1929.	1927.	1928.	1929.
	$	$	$	$	$	$
Steers—heavy finished	7·51	9·79	9·05	7·13	9·32	8·71
Steers—1,000-1,200 lb., good	7·28	9·30	8·95	7·38	9·18	8·65
Steers—1,000-1,200 lb., common	5·88	7·51	6·98	5·27	7·32	6·87
Steers—700-1,000 lb., good	7·40	9·34	9·19	7·84	9·36	9·06
Steers—700-1,000 lb., common	5·83	7·43	7·03	5·40	7·42	7·01
Heifers, good	6·74	8·67	8·50	5·94	8·39	8·07
Heifers, fair	5·68	7·66	7·35	5·03	7·27	7·01
Heifers, common	4·84	6·84	6·30	4·15	6·37	6·22
Cows, good	5·33	7·26	6·88	5·10	7·03	6·83
Cows, common	4·12	5·46	5·39	3·94	5·62	5·42
Bulls, good	4·33	6·08	6·30	3·67	5·54	5·63
Bulls, common	3·58	5·34	5·13	3·98	4·73	4·90
Canners and cutters	3·04	4·36	4·07	2·66	4·15	4·04
Calves, veal	7·25	11·61	11·31	6·59	10·88	10·56
Calves, grass	–	–	–	–	–	–
Stockers—450-800 lb., good	5·42	7·84	7·76	5·30	7·55	7·00
Stockers—450-800 lb., fair	4·45	6·51	6·33	4·53	6·54	6·13
Feeders—800-1,000 lb., good	6·31	8·73	7·85	5·87	8·13	7·06
Feeders—800-1,000 lb., fair	5·28	7·32	6·65	4·97	7·19	6·10
Hogs (fed and watered), select bacon	10·08	9·60	11·18	10·68	9·58	11·36
Hogs (fed and watered), thick, smooth	9·62	9·20	11·00[1]	10·09	9·86	11·10[1]
Hogs (fed and watered), heavies	9·10	9·30	10·57	9·14	8·95	10·18
Hogs (fed and watered), shop	8·84	8·69	11·10[1]	9·55	9·27	10·31[1]
Hogs (fed and watered), sows, No. 1	7·03	8·33	9·04	7·66	8·22	7·78
Hogs (fed and watered), stags	5·36	5·59	6·14	4·46	4·00	3·40
Lambs, good	11·08	11·81	10·89	10·75	11·15	9·99
Lambs, common	8·35	8·74	7·73	7·96	8·15	7·27
Sheep, heavy	6·15	7·50	6·40	6·29	6·95	6·86
Sheep, light	6·57			6·76		
Sheep, common	4·05	4·09	3·51	4·02	4·56	4·63

[1] Average, January to August, after which "thick, smooth" and "shop" classes were discontinued.

45.—Monthly Average Prices per Cwt. of Canadian Live Stock at Principal Markets, 1930.

Classification.	Jan.	Feb.	Mar.	April	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Montreal—	$	$	$	$	$	$	$	$	$	$	$	$
Steers, 1,000-1,200 lb., good[1]	9·66	10·26	10·44	11·08	11·26	10·09	8·34	7·29	7·28	7·07	6·69	7·17
Heifers, good[2]	9·25	9·42	9·75	10·01	10·17	9·30	7·69	6·95	6·11	5·92	5·89	6·10
Calves, veal, good[3]	14·39	14·10	12·15	8·41	8·42	8·57	8·61	9·25	9·72	10·21	10·81	12·16
Hogs, bacon (fed and watered)	13·04	13·49	13·42	13·14	12·47	12·86	12·68	12·01	11·80	11·85	10·63	10·24
Hogs, butchers (fed and watered)	12·70	13·25	13·11	12·78	12·24	12·80	12·68	11·94	10·13	11·86	10·59	10·27
Lambs, good, handy weights	10·05	10·81	11·12	–	17·50	15·36	11·87	8·81	8·01	7·84	7·80	8·28
Sheep, good, handy weights	6·01	6·36	6·89	7·36	6·45	5·05	5·01	4·56	4·21	4·07	3·74	4·09
Toronto—												
Steers, 1,000-1,200 lb., good[1]	9·75	9·78	10·20	11·06	10·70	9·50	8·13	7·21	7·22	7·27	7·29	7·34
Heifers, good[2]	9·63	9·69	10·09	10·77	10·38	9·35	7·98	7·28	7·14	7·16	7·36	7·32
Calves, veal, good[3]	15·78	14·51	13·65	12·01	10·84	10·06	10·15	10·84	11·39	12·42	12·11	11·31
Hogs, bacon[4]	13·31	14·09	13·50	13·00	12·13	12·42	12·22	12·05	12·21	11·66	10·84	10·45
Hogs, butchers[4]	12·84	13·55	13·04	12·48	11·68	11·94	11·27	11·57	11·79	11·29	10·32	10·06
Lambs, good, handy weights	13·31	12·45	11·86	11·42	14·63	13·59	12·22	9·01	8·30	8·26	8·28	8·74
Sheep, good, handy weights	7·18	7·30	8·28	7·56	7·06	5·06	4·98	4·96	3·88	4·42	4·44	4·57

For footnotes see end of table, p. 256.

45.—Monthly Average Prices per Cwt. of Canadian Live Stock at Principal Markets, 1930—concluded.

Classification.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	$	$	$	$	$	$	$	$	$	$	$	$
Winnipeg—												
Steers, 1,000–1,200 lb., good[1]	9·13	9·41	9·42	10·34	10·71	9·51	7·93	5·96	5·36	5·46	5·83	5·83
Heifers, good.[2]	8·79	9·07	9·26	9·75	9·75	8·76	7·94	5·96	5·49	5·40	5·46	5·81
Calves, veal, good[3]	12·81	12·49	12·50	10·96	11·54	8·85	8·95	9·34	9·03	8·28	8·16	9·50
Hogs, bacon (fed and watered)	11·40	12·41	11·77	11·51	11·15	11·23	11·17	11·18	11·33	10·45	9·11	8·77
Hogs, butchers (fed and watered)	11·05	12·13	11·51	11·26	10·80	10·90	10·72	10·75	10·88	10·06	8·63	8·39
Lambs, good, handy weights	11·10	10·68	10·61	9·86	11·78	10·57	9·95	7·97	7·36	7·24	7·66	7·54
Sheep, good, handy weights	6·74	6·31	7·00	6·88	7·23	5·88	4·85	3·61	3·68	4·22	4·29	4·63
Calgary—												
Steers, 1,000–1,200 lb., good[1]	9·18	9·53	9·65	9·96	10·39	9·48	6·93	5·90	5·25	5·24	5·05	5·75
Heifers, good[2]	8·64	8·75	8·75	9·19	9·41	8·64	6·23	5·36	5·30	5·30	5·30	5·83
Calves, veal, good[3]	9·87	11·89	13·00	12·22	11·27	9·85	8·6[illegible]	7·78	7·14	6·40	6·35	6·50
Hogs, bacon (weighed off cars)	11·15	12·25	11·77	11·62	10·85	11·37	10·81	10·84	11·00	10·78	8·91	8·63
Hogs, butchers (weighed off cars)	10·18	11·87	11·44	11·25	10·51	11·00	10·42	10·50	10·66	10·42	8·53	8·28
Lambs, good, handy weights	10·50	10·44	9·70	9·00	9·00	10·33	8·30	6·71	6·25	6·43	6·50	6·86
Sheep, good handy weights	–	8·43	7·00	7·00	–	6·96	4·96	4·04	4·50	4·50	4·60	5·00
Edmonton—												
Steers, 1,000–1,200 lb., good[1]	9·25	9·35	9·80	10·41	10·51	9·73	7·47	5·54	5·08	5·31	5·16	52·5
Heifers, good[2]	8·78	9·14	9·37	10·24	10·47	9·41	6·82	5·59	5·37	5·10	5·32	5·47
Calves, veal, good[3]	11·90	12·25	12·23	10·97	11·50	9·90	8·39	8·32	8·29	8·03	7·64	8·00
Hogs, bacon[4]	11·75	12·15	11·36	10·83	10·97	11·23	11·05	10·57	10·66	10·43	8·46	8·50
Hogs, butchers[5]	11·24	11·79	11·01	10·54	10·61	10·90	10·73	10·21	10·32	10·12	8·11	8·15
Lambs, good, handy weights	11·11	10·52	10·07	8·83	10·00	10·74	7·92	6·93	6·36	6·75	6·98	7·00
Sheep, good, handy weights	5·44	6·75	6·75	6·75	6·75	6·38	4·74	4·25	4·30	4·75	4·78	5·00

[1] April to December, "Steers over 1,050 lb. good and choice". [2] April to December, "Heifers, good and choice". [3] April to December "Calves, veal, good and choice". [4] Prices for January to March and September to December on basis "weighed off cars"; prices for April to August on basis "fed and watered". [5] Prices for January to March on basis "weighed off cars", and for April to December on basis "fed and watered".

Index Numbers of Agricultural Prices.—Records of the average prices received by farmers for agricultural produce have been collected annually since 1909 through the crop correspondents of the Census and Statistics Office and the Dominion Bureau of Statistics. From these records, annual index numbers have been calculated for each crop and for the field crops as a whole. In calculating the index numbers in the present instance the base period used is 1926. Index numbers have been calculated of the yields of the various crops from year to year. From these data index numbers of the value of all field crops, weighted according to the quantity produced in each case, have been obtained. These calculations have been made with prices for the year 1926 as a base in Table **46**. The diagram on p. 259 shows the trend of prices since the pre-war year 1913, using that year as a base; the recovery of agricultural prices from their low level of 1922 and 1923 and the subsequent fluctuations to 1930 will be noticed.

46.—Index Numbers of Producers' Prices of Agricultural Commodities, 1913-1930.

NOTE.—Average Prices, 1926 = 100.

For the formulæ used in the calculation see Monthly Bulletin of Agricultural Statistics, March, 1928, p. 94.

Field Crop.	Average Prices 1926.[1]	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	$ c.								
Canada—									
Wheat	1 09	61·5	111·9	83·5	120·2	178·0	185·3	217·4	148·6
Oats	0 48	66·7	100·0	75·0	106·3	143·8	162·5	166·7	110·4
Barley	0 52	80·8	115·3	100·0	158·8	207·7	192·3	236·5	159·6
Rye	0 77	85·7	107·8	100·0	142·9	210·4	193·5	181·1	172·7
Peas	1 75	63·4	83·4	94·3	126·9	202·3	170·9	163·4	138·3
Beans	2 64	71·2	87·5	115·5	204·5	282·2	204·9	169·7	147·0
Buckwheat	0 87	73·6	82·8	86·2	123·0	167·8	181·6	172·4	147·1
Mixed grains	0 66	83·3	100·0	86·4	133·3	175·8	172·7	206·1	136·4
Flaxseed	1 62	59·9	63·6	93·2	125·9	163·6	193·2	254·9	119·8
Corn for husking	1 00	64·0	71·0	71·0	107·0	184·0	175·0	134·0	116·0
Potatoes	1 47	55·8	55·8	68·0	91·8	115·0	110·9	107·5	110·2
Turnips, etc	0 60	93·3	90·0	80·0	130·0	153·3	141·7	163·3	138·3
Hay and clover	12 13	94·6	117·3	118·4	95·6	85·2	134·0	170·8	215·2
Grain hay	10 11	–	–	–	–	–	–	286·8	327·6
Alfalfa	13 30	89·1	106·5	95·3	80·4	87·1	134·1	164·3	178·8
Fodder corn	4 88	98·0	100·6	100·6	100·8	105·3	126·0	141·8	158·8
Sugar beets	6 45	94·9	92·9	85·3	96·1	104·7	158·9	168·4	198·4
All Field Crops	–	**69·6**	**98·3**	**83·7**	**106·7**	**138·7**	**158·5**	**178·7**	**149·3**

Field Crop.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
Canada—										
Wheat	74·3	78·0	61·5	111·9	112·8	100·0	91·7	73·4	96·3	40·4
Oats	70·8	79·2	68·8	102·1	87·5	100·0	106·3	97·9	122·9	50·0
Barley	90·4	88·5	80·8	134·6	101·9	100·0	126·9	107·7	113·5	35·5
Rye	93·5	75·3	63·6	128·6	100·0	100·0	106·5	102·6	109·1	26·0
Peas	112·0	105·1	98·3	100·0	94·3	100·0	100·6	105·7	117·7	84·0
Beans	109·8	108·0	100·8	104·9	97·7	100·0	87·9	135·2	125·0	86·0
Buckwheat	102·3	96·6	96·6	102·3	97·7	100·0	102·3	106·9	108·0	74·7
Mixed grains	93·8	90·9	89·4	107·6	98·5	100·0	109·0	107·8	115·2	63·6
Flaxseed	88·9	106·2	109·3	119·8	114·2	100·0	95·7	98·1	146·9	58·6
Corn for husking	83·0	83·0	92·0	119·0	94·0	100·0	99·0	112·0	106·0	87·0
Potatoes	87·1	61·2	69·4	57·8	140·1	100·0	79·6	54·4	108·2	56·5
Turnips, etc	111·7	90·0	98·3	73·3	93·3	100·0	76·7	78·3	88·3	73·3
Hay and clover	194·2	111·0	90·4	91·3	85·3	100·0	85·8	85·5	96·0	81·0
Grain hay	–	127·3	34·3	91·5	91·5	100·0	100·0	99·7	95·0	66·6
Alfalfa	150·0	96·0	87·1	88·0	95·6	100·0	90·5	86·5	94·1	91·1
Fodder corn	144·5	101·8	94·7	104·9	82·6	100·0	91·6	96·1	106·2	101·0
Sugar beets	100·8	122·2	100·5	105·3	94·3	100·0	120·8	112·4	119·2	106·5
All Field Crops	**101·1**	**86·6**	**72·4**	**102·3**	**102·1**	**100·0**	**96·5**	**84·6**	**104·9**	**56·3**

[1] Prices quoted are per bushel, except for potatoes and turnips, etc., which are per cwt., and the last five items, which are per ton. For details of index numbers by provinces, see Monthly Bulletin of Agricultural Statistics, January, 1931, pp. 26–32.

The general index number fell from 1924 to 1928, especially from 1926 to 1928, and recovered strongly in 1929 but declined rapidly to reach the record low, for the period under review, of 56·3 in 1930. The commodities responsible for the decline from 1927 to 1928 were the cereals and potatoes. The root and forage crops held fairly steady and there were increases in peas and beans.

The severe decline of 1930 was characterized by marked reductions in the prices obtained for all the agricultural commodities listed. Reductions in the prices of the cereals wheat, oats, barley and rye were drastic; wheat, which has the greatest weight in the index, was mainly responsible for the decline of 46 points in the general index between 1924 and 1930, as well as for the temporary recovery in 1929. Legumes, roots and most forage crops fared better as regards prices obtained in 1930 than the cereals, but reductions were still severe. Fodder corn and sugar beets held up fairly well under the circumstances.

Subsection 10.—Agricultural Statistics of the Census.

A selection of the more important agricultural statistics of the census of 1921 was published at pp. 269-271 of the 1929 edition of the Year Book. Further, certain agricultural statistics of the Prairie Provinces collected at their quinquennial census of 1926 were published at pp. 271-273 of the same volume. The complete agricultural statistics of the census of 1921 are published in Volume V of the publications of the census of that year, while the detailed agricultural statistics of the census of the Prairie Provinces of 1926 will be found in the reports of the census of that year, issued separately for the provinces of Manitoba, Saskatchewan and Alberta.

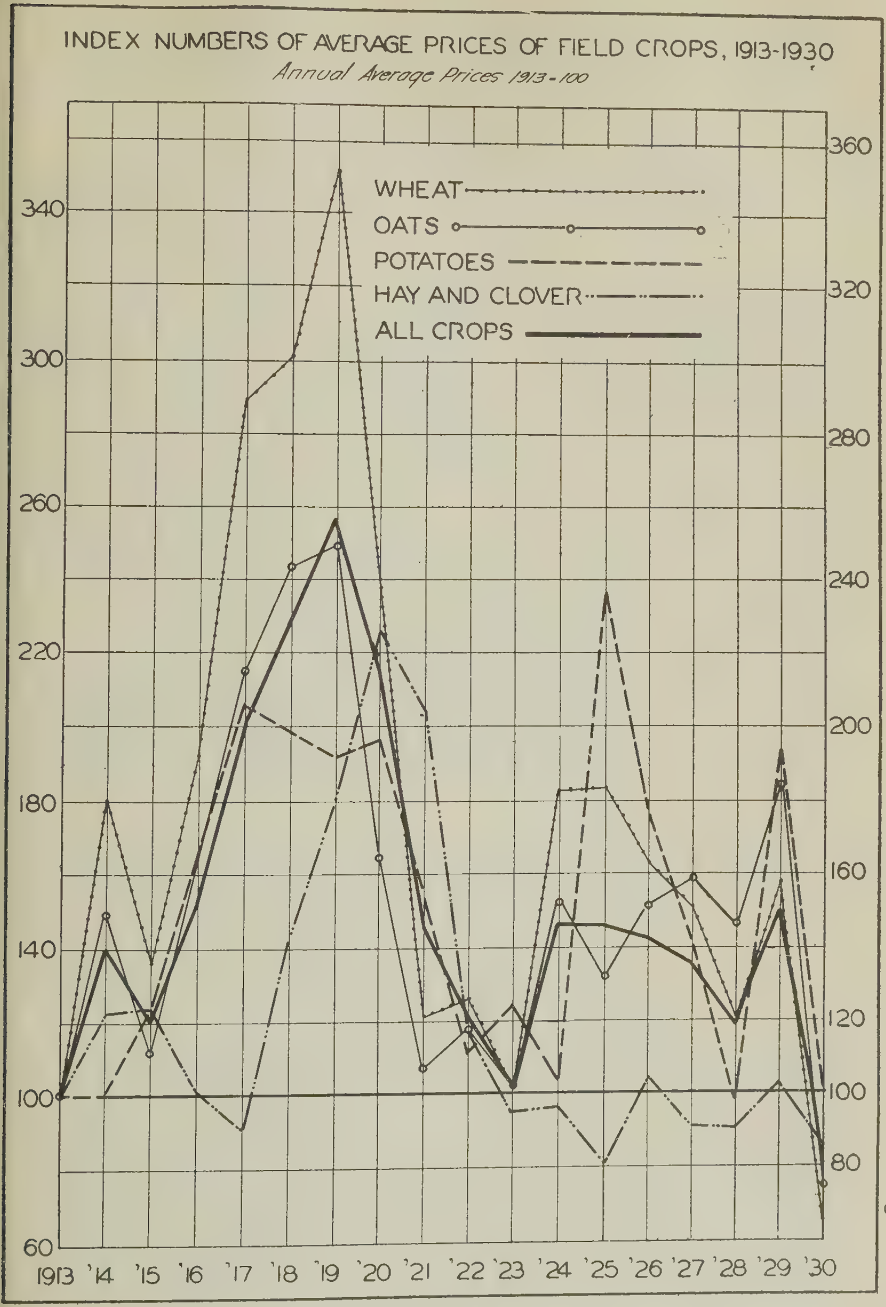
Area Suitable for Agriculture.—Various estimates of the areas of agricultural land in Canada have been made. Such estimates must necessarily be of a very tentative character, especially in view of the fact that every advance in the art of evolving more frost-resistant and drought-resistant species of cultivated grains, etc., increases the area of potential agricultural land, while the same result follows from the introduction of improved methods of tilling the soil, as in dry-farming. Of the grand total land area of Canada, now estimated at 2,246,405,120 acres, 1,309,724,800 acres are within the nine provinces, and Table **47**, based partly upon the census of 1921, is presented as a fair estimate of the possible farm land in these provinces under present conditions.

47.—Total Land Area of the Provinces of Canada, 1930, with Estimated Possible Farm Land and Farm Land Occupied, 1921.

Province.	Total Land Area.	Estimated Possible Farm Land.		Occupied as Farm Land 1921.		Per cent of Possible Farm Land Occupied.		
						1921.	1911.	1901.
	acres.	acres.	p.c. of total.	acres.	p.c. of total.	p.c.	p.c.	p.c.
Prince Edward Island.	1,397,760	1,258,190	90·0	1,216,483	87·0	96·7	95·6	94·9
Nova Scotia..........	13,275,520	8,092,000	61·0	4,723,550	35·6	58·4	65·0	62·8
New Brunswick.......	17,734,400	10,718,000	60·4	4,269,560	24·1	39·8	42·3	41·5
Quebec...............	365,442,560	43,745,000	12·1	17,257,012	4·7	39·4	35·7	33·0
Ontario................	232,500,480	56,450,000	24·2	22,628,901	9·7	40·1	39·3	37·8
Manitoba..............	143,857,280	24,700,000	17·2	14,615,844	10·1	59·2	49·3	35·8
Saskatchewan.........	152,304,000	93,458,000	61·4	44,022,907	28·9	47·1	30·1	4·1
Alberta................	159,232,000	97,123,000	61·0	29,293,053	18·4	30·2	17·9	2·8
British Columbia......	223,980,800	22,618,000	10·0	2,860,593	1·3	12·6	11·2	6·6
Canada........	**1,309,724,800**	**358,162,190**	**27·3**	**140,887,903**	**10·8**	**39·3**	**30·4**	**17·7**

Subsection 11.—Miscellaneous Agricultural Statistics.

Agricultural Irrigation.—Following legislation enacted at the 1930 session of the Dominion Parliament, the control of all waters formerly administered by the Department of the Interior under the provisions of the Irrigation Act has passed to the Provincial Governments concerned, the dates of transfer being, to Manitoba July 15, 1930, and to Alberta and Saskatchewan Aug. 1, 1930, although by special agreement in the two latter provinces the administration of the water resources was continued by federal officers until Sept. 30, 1930. Irrigation and all matters pertaining thereto are now wholly under the control of the various Provincial Governments and carried on under provincial legislation.


INDEX NUMBERS OF AVERAGE PRICES OF FIELD CROPS, 1913-1930
Annual Average Prices 1913-100
WHEAT
OATS
POTATOES
HAY AND CLOVER
ALL CROPS
340
300
260
220
180
140
100
60
360
320
280
240
200
160
120
100
80
1913
'14
'15
'16
'17
'18
'19
'20
'21
'22
'23
'24
'25
'26
'27
'28
'29
'30

The construction of large irrigation projects in the Prairie Provinces has been confined, up to the present, to Alberta. Table **48**, furnished by the Dominion Water Power and Hydrometric Bureau, Department of the Interior, gives statistics of the larger irrigation projects in Alberta for the year 1930.

48.—Major Irrigation Projects in Southern Alberta, 1930.

Project.	Source of Supply.	Irrigable Area.	Length of Canals.	Area Irrigated in 1929.
		acres.	miles.	acres.
C.P.R. Western Section	Bow river	218,980	1,472	37,394
C.P.R. Eastern Section	Bow river	400,000	2,500	78,610
C.P.R. Lethbridge Section	St. Mary river	89,000	196	25,713
Canada Land and Irrigation Co., Ltd	Bow river	125,500	418	25,910
Taber Irrigation District	St. Mary river	21,570	95	10,094
Lethbridge Northern Irrigation District	Oldman river	101,336	573	61,231
United Irrigation District	Belly river	34,235	175	3,102
New West Irrigation District	Bow river	4,501	21	3,182
Magrath Irrigation District	St. Mary river	6,975	90	4,000
Raymond Irrigation District	St. Mary river	15,130	15	-
Totals		**1,017,227**	**5,555**	**249,236**

In addition to the irrigated tracts enumerated in Table **48** there were at September 30, 1930, in Alberta and Saskatchewan, about 620 privately owned projects, making possible the irrigation of a further 96,000 acres.

Average Value of Farm Lands.—Statistics showing the average value of farm lands in Canada in 1910, in 1914 and in more recent years are given in Table **49**. The values are as estimated by crop correspondents and show the rise in land values between 1914 and 1920, the general decline with moderate fluctuations since the latter date and the rapid fall in 1930 to a point below the 1910 level for the country as a whole. The figures are interesting as indicative of the trend of land values.

49.—Average Values per Acre of Occupied Farm Lands[1] in Canada, as Estimated by Crop Correspondents, 1910, 1915-30.

Province.	1910	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
Canada	**33**	**35**	**36**	**38**	**41**	**46**	**48**	**40**	**40**	**37**	**37**	**38**	**37**	**38**	**38**	**37**	**32**
P.E. Island	31	38	39	44	44	51	49	46	45	51	40	45	46	41	44	43	42
Nova Scotia	25	28	34	34	36	41	43	35	34	31	33	37	36	37	34	36	30
New Brunswick	19	22	29	29	35	32	35	28	32	32	27	34	31	30	31	35	28
Quebec	43	51	52	53	57	72	70	59	58	56	53	54	53	57	54	55	48
Ontario	48	52	53	55	57	66	70	63	64	64	65	67	62	65	62	60	52
Manitoba	29	30	32	31	32	35	39	35	32	28	28	29	29	27	27	26	22
Saskatchewan	22	24	23	26	29	32	32	29	28	24	24[2]	24	25	26	27	25	22
Alberta	24	23	22	27	28	29	32	28	24	24	25	26	26	26	28	28	24
British Columbia	74	125	119	149	149	174	175	122	120	100	96	88	80	89	90	90	76

[1] Orchards and Fruit Lands, 1930, with 1929 in brackets:—Nova Scotia $94 ($118); Ontario $110 ($147); British Columbia $291 ($314).

[2] Actual returns were not collected from crop correspondents in Saskatchewan for 1924, and the estimate of 1924 is interpolated.

Subsection 12.—International Agricultural Statistics.

World Production of Cereals and Potatoes.—Table 50, constructed from data published by the International Institute of Agriculture, shows the area and yield of wheat, oats, barley, rye, corn, and potatoes for the years 1929 and 1930 in countries of the Northern Hemisphere, and for the years 1927-28 and 1928-29 in countries of the Southern Hemisphere. The annual average acreages and yields are also given for the five-year period, 1924-28 (1923-24 to 1927-28), and the areas and yields of 1930 (1929-30) are compared in percentages with those of the five-year period.

Wheat.—For 44 countries the production of wheat in 1930 was 3,671,839,000 bushels from 244,746,000 acres, as compared with 3,385,223,000 bushels from 238,012,000 acres in 1929 and 3,476,981,000 bushels from 228,792,000 acres, the five-year average, 1924-28 (1923-24 to 1927-28). Although there was only a slight increase in wheat acreage between 1929 and 1930 the total production increased 286,616,000 bushels or 8·5 p.c. As compared with the five-year average, the 1930 acreage was 6·9 p.c. greater and the production 5·6 p.c. greater.

Oats.—The statistics of 35 countries show a total production in 1930 of 3,006,029,000 bushels from 113,587,000 acres, as compared with 3,483,412,000 bushels from 102,238,000 acres in 1929 and with 3,465,999,000 bushels from 104,291,000 acres, the five-year average. The 1930 area was 11·1 p.c. more and the production 13·7 p.c. less than in 1929. As compared with the five-year average, the 1930 area was nearly 9 p.c. more and the production 13·3 p.c. less.

Barley.—In 39 countries, the total yield in 1930 was 1,440,656,000 bushels from 61,113,000 acres, as compared with 1,506,709,000 bushels from 62,778,000 acres in 1929 and 1,252,723,000 bushels from 54,096,000 acres, the five-year average. The area in 1930 was 2·6 p.c. less and the yield 4·4 p.c. less than in 1929 and compared with the five-year average, the acreage in 1930 was 13 p.c. more and the yield 15 p.c. more.

Rye.—The statistics available for 31 countries show that the production in 1930 was 995,331,000 bushels from 48,616,000 acres, as compared with 1,009,649,000 bushels from 47,287,000 acres in 1929, and 888,958,000 bushels from 46,865,000 acres, the five-year average. The area in 1930 was 2·8 p.c. greater and the production 1·4 p.c. less than in 1929. Compared with the five-year average, the 1930 acreage was 3·7 p.c. and the production 12 p.c. more.

Corn.—In 18 countries, the production in 1930 was 2,709,903,000 bushels from 146,549,000 acres as compared with 3,538,564,000 bushels from 143,640,000 acres in 1929, and 3,476,941,000 bushels from 143,585,000 acres, the five-year average. The area for 1930 was 2·0 p.c. more and the production 23·4 p.c. less than in 1929, and compared with the five-year average, the 1930 area was 2·0 p.c. more and the production 22·0 p.c. less.

Potatoes.—In 32 countries, the total yield in 1930 was 3,073,805,000 bushels from 42,882,000 acres, as compared with 4,394,584,000 bushels from 44,881,000 acres in 1929, and with 4,835,517,000 bushels from 42,710,000 acres, the five-year average. The 1930 acreage is 4·5 p.c. less and the production 30 p.c. less than in 1929, while as compared with the five-year average, the 1929 acreage was 0·4 p.c. more and the production 36·4 p.c. less.

50.—Acreage and Production of Cereals and Potatoes in Countries of the World, 1929 and 1930, with Five-year Average for 1924-1928.

Crop and Country.	Acreage.				Production.			
	1929.	1930.	Average 1924-28.	1929 in p.c. of Average.	1929.	1930.	Average 1924-28.	1929 in p.c. of Average.
	000 acres.	000 acres.	000 acres.	p.c.	000 bush.	000 bush.	000 bush.	p.c.
Wheat—								
NORTHERN HEMISPHERE.								
EUROPE.								
Austria	515	501	497	100·8	11,559	11,383	10,695	106·4
Belgium	356	414	372	111·5	13,225	13,547	14,755	91·8
Bulgaria	2,661	2,958	2,628	112·5	33,191	58,272	38,775	150·3
Czechoslovakia	2,023	2,112	1,812	–	52,902	53,017	44,703	–
Denmark	257	252	225	111·9	11,772	10,472	9,200	113·8
Estonia	82	90	58	155·4	1,260	1,263	863	146·3
Finland	47	51	41	124·3	1,095	1,189	941	126·3
France	12,750	13,202	13,297	99·3	319,861	231,118	280,138	82·5
Germany	3,955	4,402	4,001	110·0	123,062	139,216	112,991	123·2
Great Britain and N. Ireland	1,385	1,405	1,594	91·2	49,757	42,075	52,162	80·2
Greece	1,249	1,191	1,234	96·5	8,501	10,577	11,481	92·1
Hungary	3,708	4,071	3,779	107·7	74,985	73,334	74,859	98·0
Irish Free State	29	27	30	89·1	1,184	–	1,109	–
Italy	11,794	11,910	11,933	99·8	260,123	210,815	211,207	99·8
Latvia	145	179	131	136·0	2,336	3,676	2,148	171·1
Lithuania	488	526	296	177·7	9,329	10,603	4,877	217·4
Luxemburg	21	25	31	83·3	275	455	580	78·3
Malta	9	9	9	101·3	293	302	287	105·3
Netherlands	112	144	137	105·4	5,467	4,971	5,870	84·7
Norway	30	30	24	128·7	756	776	595	130·5
Poland	3,526	3,980	3,230	123·2	65,861	79,733	54,825	145·4
Portugal	1,091	1,091	1,067	–	10,814	13,143	10,121	129·9
Roumania	6,764	7,551	7,961	94·9	99,752	130,769	99,664	131·2
Serb-Croat-Slovene State	5,310	5,357	4,530	118·3	94,998	84,004	73,541	121·0
Spain	10,622	10,531	10,637	99·0	154,244	145,991	139,135	104·9
Sweden	574	646	438	147·6	19,032	22,130	13,461	164·4
Switzerland	174	182	168	108·1	5,787	5,337	5,381	99·2
AMERICA.								
Canada	25,255	24,897	22,464	110·8	304,520	397,872	422,220	93·8
Mexico	1,293	1,207	1,283	94·1	11,333	11,274	10,565	106·7
United States	61,464	59,153	55,665	105·4	809,176	850,965	833,097	198·5
ASIA.								
British India	31,973	31,347	31,318	100·1	320,731	386,731	325,808	118·6
Japan	1,214	1,198	1,161	103·2	30,496	29,538	28,677	103·0
Korea	874	848	892	95·1	8,320	8,984	9,736	92·3
Manchuria	3,175	3,393	3,254	104·3	47,831	49,848	59,012	84·5
Syria and Lebanon	899	1,175	1,260	93·3	16,288	17,892	11,602	154·2
AFRICA.								
Algeria	3,795	3,944	3,600	109·6	33,306	30,644	26,437	111·3
Cyrenaica	24	38	38	99·7	209	155	161	96·2
Egypt	1,615	1,577	1,514	104·1	45,228	41,100	37,856	108·6
French Morocco	3,011	2,236	2,522	88·7	31,764	18,372	28,714	64·0
Tunis	1,730	1,656	1,612	102·7	12,309	9,663	10,031	96·3
SOUTHERN HEMISPHERE.[1]								
Argentina	15,904	19,700	19,034	103·5	137,434	238,830	240,401	57·2
Australia	14,931	18,160	11,963	151·8	126,477	205,000	143,563	149·6
New Zealand	236	243	211	115·2	7,240	6,500	7,278	–
Union of South Africa	942	1,137	841	135·2	11,140	10,273	7,459	142·3
Totals	**238,012**	**244,746**	**228,792**	**104·0**	**3,385,223**	**3,671,839**	**3,476,981**	**97·4**

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[1] The statistics of the Southern Hemisphere are given for the years 1927-28 and 1928-29; the averages are for the five-year period 1923-24 to 1927-28 and the percentage columns give 1927-28 figures as percentages of the averages.

50.—Acreage and Production of Cereals and Potatoes in Countries of the World, 1929 and 1930, with Five-year Average for 1924-1928—continued.

Crop and Country.	Acreage.				Production.			
	1929.	1930.	Average 1924–28.	1929 in p.c. of Average.	1929.	1930.	Average 1924–28.	1929 in p.c. of Average.
	000 acres.	000 acres.	000 acres.	p.c.	000 bush.	000 bush.	000 bush.	p.c.
Oats—								
NORTHERN HEMISPHERE. EUROPE.								
Austria	733	762	763	100·1	29,246	25,113	26,660	94·2
Belgium	744	676	660	102·5	48,459	31,950	43,683	73·1
Bulgaria	387	340	335	101·3	8,862	9,375	6,281	149·2
Czechoslovakia	2,150	2,140	2,059	–	96,872	80,411	87,128	–
Denmark	968	967	1,060	96·3	67,083	67,047	60,838	110·2
Estonia	371	368	365	100·9	9,672	10,043	7,739	129·8
Finland	1,138	1,137	1,093	104·0	35,735	39,019	37,274	104·7
France	8,665	8,583	8,582	100·0	372,475	284,940	316,393	90·1
Germany	8,793	8,499	8,623	98·6	478,716	366,767	400,792	91·5
Great Britain and N. Ireland	3,057	2,942	3,093	95·1	168,905	130,974	158,550	83·6
Greece	337	322	263	122·8	3,060	4,874	4,405	110·7
Hungary	745	637	680	93·6	26,628	14,486	21,852	66·3
Irish Free State	666	644	660	97·5	45,418	–	39,678	–
Italy	1,293	1,263	1,221	103·5	45,422	34,677	38,140	90·9
Latvia	747	790	755	104·6	22,055	22,055	15,220	144·9
Lithuania	865	855	815	104·9	28,456	24,913	17,943	138·8
Luxemburg	77	70	71	98·7	3,404	2,579	2,583	100·2
Netherlands	396	380	373	101·8	24,261	16,308	20,644	79·0
Norway	239	239	239	99·9	11,432	13,221	11,350	116·5
Poland	5,416	5,420	4,889	110·9	191,483	153,026	132,406	115·6
Portugal	519	519	539	–	5,243	7,269	5,254	138·4
Roumania	2,997	2,686	2,817	95·3	88,138	75,000	56,509	132·7
Serb-Croat-Slovene State	983	1,036	919	112·8	22,744	15,659	21,964	72·6
Spain	1,840	1,768	1,834	96·4	43,117	49,572	34,880	142·1
Sweden	1,744	1,874	1,796	104·4	83,048	67,882	74,984	90·6
Switzerland	51	48	50	96·5	2,724	2,383	2,692	88·5
AMERICA.								
Canada	12,479	13,258	13,233	99·9	266,200	398,539	442,749	103·0
United States	40,043	51,598	42,968	96·8	1,156,112	980,730	1,291,092	102·2
ASIA.								
Syria and Lebanon	28	28	41	68·4	676	517	776	66·7
AFRICA.								
Algeria	639	632	601	105·1	13,916	12,709	11,048	115·0
French Morocco	116	93	57	162·6	3,212	2,421	1,283	188·7
Tunis	96	99	101	97·9	3,242	1,621	1,919	84·5
SOUTHERN HEMISPHERE.[1]								
Argentina	2,160	2,051	2,022	101·4	64,277	49,604	59,789	114·3
New Zealand	68	322	106	304·6	3,435	4,314	4,987	–
Union of South Africa	688	535	608	88·1	9,684	6,031	6,514	92·6
Totals	**102,238**	**113,587**	**104,291**	**98·0**	**3,483,412**	**3,006,029**	**3,465,999**	**100·5**

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[1] The statistics of the Southern Hemisphere are given for the years 1927–28 and 1928–29; the averages are for the five-year period 1923-24 to 1927-28 and the percentage columns give 1927-28 figures as percentages of the averages.

50.—Acreage and Production of Cereals and Potatoes in Countries of the World, 1929 and 1930, with Five-year Average for 1924-1928—continued.

Crop and Country.	Acreage.				Production.			
	1929.	1930.	Average 1924-28.	1929 in p.c. of Average.	1929.	1930.	Average 1924-28.	1929 in p.c. of Average.
	000 acres.	000 acres.	000 acres.	p.c.	000 bush.	000 bush.	000 bush.	p.c.
Barley—								
NORTHERN HEMISPHERE. EUROPE.								
Austria	391	414	361	114·9	12,374	11,313	9,877	114·8
Belgium	63	74	80	92·2	2,834	3,291	4,127	79·7
Bulgaria	542	673	559	120·4	9,381	18,905	11,741	161·0
Czechoslovakia	1,839	1,830	1,732	–	64,074	56,475	55,638	130·3
Denmark	909	938	792	118·4	51,094	49,743	38,167	130·3
Estonia	281	276	290	95·3	5,678	5,710	5,082	112·4
Finland	272	272	271	100·3	6,168	6,223	6,389	97·4
France	1,853	1,799	1,740	103·4	59,025	45,338	48,451	93·6
Germany	3,835	3,753	3,639	103·1	146,093	131,373	124,433	105·6
Great Britain and N. Ireland	1,223	1,135	1,336	84·9	51,372	38,826	50,411	76·8
Greece	535	490	463	105·7	4,724	7,737	6,738	115·9
Hungary	1,178	1,129	1,020	110·7	31,853	24,597	24,002	102·5
Irish Free State	118	116	139	83·9	5,960	–	6,213	–
Italy	579	582	576	101·1	12,071	11,165	10,607	105·3
Latvia	451	537	434	100·8	9,548	8,143	6,703	121·5
Lithuania	529	529	485	108·9	12,286	10,079	9,471	106·4
Luxemburg	14	7	7	99·2	431	179	182	98·5
Malta	6	7	6	104·3	286	295	285	103·5
Netherlands	78	77	68	113·5	5,010	3,477	3,701	93·9
Norway	132	134	143	93·8	4,533	5,039	4,961	101·6
Poland	3,110	3,054	2,761	110·6	76,235	67,518	57,574	117·3
Portugal	186	186	190	–	1,958	2,651	1,838	144·3
Roumania	5,074	4,881	4,260	114·6	125,871	108,916	56,465	192·9
Serb-Croat-Slovane State	1,108	1,129	941	120·0	18,918	19,231	16,291	118·0
Spain	4,490	4,390	4,438	98·9	97,342	101,096	90,799	111·3
Sweden	307	325	372	87·4	11,485	9,967	12,300	81·0
Switzerland	16	16	16	101·4	556	514	549	93·6
AMERICA.								
Canada	5,926	5,558	3,793	146·5	102,313	135,160	101,848	135·5
United States	13,068	12,437	8,993	138·4	302,892	325,893	240,743	135·4
ASIA.								
Japan	2,202	2,110	2,388	88·3	80,360	72,472	83,715	86·6
Korea	2,295	2,382	2,175	109·5	37,613	39,849	36,697	108·6
Syria and Lebanon	750	840	741	113·4	23,866	21,464	10,375	206·9
AFRICA.								
Algeria	3,536	3,602	3,380	106·5	40,446	37,663	30,487	123·5
Cyrenaica	94	127	169	75·0	1,575	574	1,309	43·9
Egypt	401	345	363	95·1	12,669	10,596	10,951	96·8
French Morocco	3,240	2,955	3,004	98·4	47,318	27,558	49,812	55·3
Tunis	1,236	988	1,143	86·5	11,483	5,512	6,995	78·8
SOUTHERN HEMISPHERE.								
Argentina	802	921	726	126·9	16,132	14,238	14,755	134·6
Union of South Africa	91	70	78	90·2	2,097	1,048	1,079	97·1
New Zealand	18	25	24	103·8	786	828	962	–
Totals	**62,778**	**61,113**	**54,096**	**116·0**	**1,506,709**	**1,440,656**	**1,252,723**	**120·3**

50.—Acreage and Production of Cereals and Potatoes in Countries of the World, 1929 and 1930, with Five-year Average for 1924-1928—continued.

Crop and Country.	Acreage.				Production.			
	1929.	1930.	Average 1924-28.	1929 in p.c. of Average.	1929.	1930.	Average 1924-28.	1929 in p.c. of Average.
Rye—	000 acres.	000 acres.	000 acres.	p.c.	000 bush.	000 bush.	000 bush.	p.c.
NORTHERN HEMISPHERE.								
EUROPE.								
Austria	925	922	947	97·4	20,097	20,613	19,321	106·7
Belgium	567	564	567	99·4	22,162	19,757	21,498	91·9
Bulgaria	536	648	456	142·2	7,337	13,530	6,722	201·3
Czechoslovakia	2,690	2,676	2,499	–	72,186	68,047	62,499	–
Denmark	376	372	465	80·1	10,411	10,039	11,341	88·5
Estonia	329	367	367	99·8	5,736	8,136	5,880	138·4
Finland	563	568	565	100·6	13,129	14,104	12,149	116·1
France	1,936	1,878	2,025	92·8	39,433	29,255	36,403	80·4
Germany	11,680	11,640	11,383	102·3	326,050	302,317	279,945	108·0
Greece	172	144	113	127·1	1,295	1,581	1,463	108·1
Hungary	1,623	1,571	1,652	95·1	31,424	26,429	28,199	93·7
Irish Free State	4	4	7	53·3	126	–	187	–
Italy	308	301	307	97·9	6,909	6,121	6,357	96·3
Latvia	590	660	641	102·8	9,503	13,851	9,004	153·8
Lithuania	1,113	1,197	1,235	96·9	22,031	24,842	19,626	126·6
Luxemburg	18	22	16	132·9	416	415	345	120·4
Netherlands	488	494	489	101·1	18,300	12,385	15,284	81·0
Norway	18	19	22	85·1	538	587	600	97·8
Poland	14,328	14,509	13,719	105·8	275,964	272,430	217,919	125·0
Portugal	577	577	625	–	4,686	4,863	4,509	107·8
Roumania	773	968	699	138·4	13,266	18,288	9,202	198·7
Russia (Soviet Union)	–	–	–	–	–	–	–	–
Serb-Croat-Slovene State	602	625	511	122·5	8,268	9,562	6,862	139·4
Spain	1,519	1,446	1,747	82·8	22,935	20,679	24,119	85·7
Sweden	631	592	746	79·4	16,282	19,169	18,578	103·2
Switzerland	49	50	49	102·7	1,614	1,514	1,593	95·1
AMERICA.								
Canada	992	1,448	774	186·3	13,160	22,018	13,055	170·7
United States	3,331	3,722	3,766	98·8	41,911	50,234	50,851	98·8
AFRICA.								
Algeria	3	5	3	168·3	48	70	34	206·5
French Morocco	3	1	2	79·1	31	11	16	71·5
SOUTHERN HEMISPHERE.								
Argentina	543	626	468	133·8	4,401	4,474	5,397	123·6
Totals	**47,287**	**48,616**	**46,865**	**100·9**	**1,009,649**	**995,331**	**888,958**	**113·6**
Corn—								
NORTHERN HEMISPHERE.								
EUROPE.								
Austria	138	139	148	94·3	4,617	4,417	4,267	103·5
Bulgaria	1,976	1,696	1,577	107·5	36,996	34,062	23,824	143·0
Czechoslovakia	335	325	346	–	9,113	8,142	9,556	–
France	852	762	849	89·7	19,646	22,023	16,711	–
Greece	344	337	502	67·1	5,967	4,810	6,253	76·9
Hungary	2,774	2,664	2,599	102·5	70,632	52,328	71,316	73·4
Italy	3,720	3,737	3,776	98·9	99,624	118,001	97,224	121·4
Roumania	11,849	10,939	10,026	109·1	251,414	155,435	159,343	97·5
Russia (Soviet Union)	8,785	9,625	8,303	115·9	165,741	–	142,711	–
Serb-Croat-Slovene State	5,883	6,079	5,388	112·8	163,287	137,888	117,501	117·3
Spain	1,006	1,072	1,088	98·5	24,794	27,327	23,673	115·4
Switzerland	3	3	3	96·5	159	156	150	103·4
AMERICA.								
Canada	152	162	203	79·9	5,183	4,801	7,976	60·2
Mexico	7,228	7,348	7,878	93·3	59,631	52,147	87,917	59·3
United States	97,856	100,829	100,172	100·7	2,614,132	2,081,048	2,699,807	77·1
ASIA.								
Syria and Lebanon	67	105	120	87·8	1,647	1,702	2,341	72·7
AFRICA.								
Algeria	23	21	25	84·0	270	207	251	82·5
French Morocco	600	664	539	123·2	5,455	5,173	5,936	87·1
Tunis	49	42	43	97·3	256	236	184	128·2
Totals	**143,640**	**146,549**	**143,585**	**100·0**	**3,538,564**	**2,709,903**	**3,476,947**	**101·8**

50.—Acreage and Production of Cereals and Potatoes in Countries of the World, 1929 and 1930, with Five-year Average for 1924-1928—concluded.

Crop and Country.	Acreage.				Production.			
	1929.	1930.	Average 1924–28.	1929 in p.c. of Average.	1929.	1930.	Average 1924–28.	1929 in p.c. of Average.
	000 acres.	000 acres.	000 acres.	p.c.	000 bush.	000 bush.	000 bush.	p.c.
Potatoes—								
NORTHERN HEMISPHERE.								
EUROPE.								
Austria	469	474	441	106·2	61,797	54,628	44,834	130·2
Belgium	423	400	402	99·4	86,157	60,659	70,158	86·5
Bulgaria	27	35	26	135·5	1,671	1,852	786	235·6
Czechoslovakia	1,880	1,750	1,762	–	235,801	180,298	176,200	–
Denmark	158	170	177	96·1	23,633	22,223	20,292	109·5
Estonia	152	168	169	99·6	16,603	17,992	15,405	116·8
Finland	178	175	170	103·2	17,315	17,314	16,117	107·4
France	3,644	3,491	3,637	96·0	366,368	296,060	310,732	–
Germany	7,005	6,930	6,979	98·9	883,553	1,038,372	868,839	113·1
Great Britain and Northern Ireland	816	682	788	86·9	131,422	80,671	1,112,388	–
Greece	19	19	30	64·3	1,197	656	904	72·5
Hungary	700	681	634	107·2	47,802	35,694	40,542	88·0
Irish Free State	363	247	375	92·4	67,350	–	45,928	–
Italy	867	863	867	99·6	44,263	42,884	43,620	98·3
Latvia	204	231	198	117·0	23,805	22,197	15,305	145·0
Lithuania	326	403	369	109·3	40,850	39,923	31,428	127·0
Luxemburg	43	35	39	89·0	5,283	3,395	3,526	96·3
Malta	7	7	7	108·7	653	644	550	117·0
Netherlands	450	406	425	95·4	90,317	56,831	67,499	84·2
Norway	114	117	120	97·2	19,842	16,947	17,526	96·7
Poland	6,513	6,513	5,987	–	699,965	638,240	543,435	117·5
Roumania	514	468	473	99·0	50,484	38,294	39,308	97·4
Russia (Soviet Union)	14,688	13,171	13,400	98·3	1,054,915	–	939,338	–
Spain	911	953	778	122·4	101,913	92,494	71,716	129·0
Sweden	348	347	374	92·8	42,507	35,294	36,412	96·9
Switzerland	119	120	115	104·2	18,298	13,492	14,354	94·0
AMERICA.								
Canada	544	571	556	103·5	39,930	48,241	48,091	102·2
United States	3,338	3,394	3,364	100·9	215,429	216,654	235,552	92·0
ASIA.								
Syria and Lebanon	18	17	13	127·7	1,274	754	982	76·9
AFRICA.								
Algeria	29	30	23	128·7	1,056	1,102	849	129·8
Tunis	5	4	3	140·2	187	–	89	–
SOUTHERN HEMISPHERE.								
New Zealand	9	10	9	105·1	2,914	–	2,812	–
Totals	**44,881**	**42,882**	**42,710**	**105·1**	**4,394,584**	**3,073,805**	**4,835,517**	**90·9**

World Exports and Imports of Wheat and Flour.—Statistics showing the exports and imports of wheat and wheat flour for the principal countries of the world in the crop year ended July 31, 1930, with comparative figures for the previous crop year, are shown in Table **51**. This information is taken from data published by the International Institute of Agriculture. During the crop year 1929-30, a total of 518,330,000 bushels of wheat is shown as exported, as compared with 811,658,000 bushels in the previous year. The four chief exporting countries made the following contributions during the crop year 1929-30, figures for the previous year being shown within brackets, in bushels:—Canada, 155.766,000

(354,425,000); Argentina, 144,738,000 (214 054,000); United States, 95,455,000 (107,701,000); Australia, 40,781,000 (81,309,000). Exports of wheat flour amounted to 36,771,000 barrels and 43,171,000 barrels respectively during the crop years 1929-30 and 1928-29. Shipments from the United States totalled 12,889,000 barrels in 1929-30 as compared with 13,329,000 barrels in 1928-29; from Canada 6,778,000 and 11,809,000 barrels respectively and from Australia 4,676,000 and 5,846,000 barrels. Canada was the largest exporter of wheat, the second largest exporter of wheat flour and the largest exporter of wheat and wheat flour expressed as wheat in both years.

The total imports of wheat for the crop year ended July 31, 1930, amounted to 515,716,000 bushels, as compared with 681,621,000 bushels for the previous year. Great Britain and Northern Ireland imported 190,076,000 bushels in 1929-30, as compared with 192,519,000 in 1928-29; Germany, 52,546,000 bushels as compared with 93,599,000 bushels; Italy, 45,139,000 bushels as compared with 89,848,000 bushels and France 32,459,000 bushels as compared with 52,491,000 bushels. Great Britain and Northern Ireland imported 6,371,000 barrels of wheat flour as compared with 4,771,000 in the previous year, Czechoslovakia, 1,701,000 barrels as compared with 1,985,000 barrels and the Netherlands, 1,408,000 barrels as compared with 1,729,000 barrels.

51.—Exports of Wheat and Flour from the Principal Wheat-exporting Countries and Imports of Wheat and Flour to the Principal Wheat-importing Countries, crop years ended July 31, 1929 and 1939.

Wheat.	Twelve months Aug. 1—July 31.		Flour.	Twelve months Aug. 1—July 31.	
	1928–29.	1929–30.		1928–29.	1929–30.
	bush.	bush.		brl.	brl.
Exports—			Exports—		
United States	107,701,000	95,455,000	United States	13,329,000	12,889,000
Canada	354,425,000	155,766,000	Canada	11,809,000	6,778,000
Argentina	214,054,000	144,738,000	Argentina	1,739,000	1,215,000
Australia	81,309,000	40,781,000	Australia	5,846,000	4,676,000
India	610,000	4,597,000	India	545,000	568,000
Hungary	13,797,000	16,571,000	Hungary	2,615,000	2,890,000
Roumania	680,000	1,822,000	Roumania	193,000	157,000
Yugoslavia	8,701,000	22,163,000	Japan	2,360,000	1,175,000
Other countries	30,381,000	36,437,000	Other countries	4,735,000	6,423,000
Totals, Exports	**811,658,000**	**518,330,000**	**Totals, Exports**	**43,171,000**	**36,771,000**
Imports—			Imports—		
Germany	93,599,000	52,546,000	Germany	354,000	362,000
Belgium	43,511,000	42,964,000	Austria	1,388,000	1,923,000
France	52,491,000	32,459,000	Denmark	797,000	735,000
Great Britain and Northern Ireland	192,519,000	190,076,000	Finland	1,480,000	1,269,000
Irish Free State	10,744,000	9,245,000	Great Britain and Northern Ireland	4,771,000	6,371,000
Italy	89,848,000	45,139,000	Irish Free State	1,719,000	1,848,000
Netherlands	22,648,000	24,893,000	Netherlands	1,729,000	1,408,000
Sweden	10,185,000	8,304,000	Norway	963,000	702,000
Switzerland	16,615,000	15,983,000	Czechoslovakia	1,985,000	1,701,000
Czechoslovakia	8,208,000	6,004,000	Egypt	2,216,000	2,132,000
Japan	27,954,000	18,203,000	Other countries	3,176,000	2,872,000
Other countries	113,299,000	69,900,000			
Totals, Imports	**681,621,000**	**515,716,000**	**Totals, Imports**	**20,578,000**	**21,323,000**

World's Live Stock.—The statistics of Table **52**, compiled from data published by the International Institute of Agriculture, show as nearly as possible the world situation with regard to live stock about 1929. For many countries, the figures are the result of careful enumeration, while for others, they represent only quite approximate estimates.

52.—Numbers of Live Stock in Principal Countries, *circa* 1929.

Continent and Country.	Horses.	Cattle.	Sheep.	Swine.
Europe—				
Austria	282,651	2,162,385	597,413	1,473,219
Belgium	249,014	1,738,348	–	1,237,002
Bulgaria	482,180	1,817,437	8,739,803	1,002,089
Czechoslovakia	760,202[1]	4,691,320	861,128	2,804,395
Denmark	520,600	3,030,500	190,984	3,616,300
Finland	394,850	1,902,600	1,310,000	426,000
France	2,936,020	15,005,080	10,445,010	6,016,940
Germany	3,611,142[1]	18,008,429	3,475,015	19,919,601
Great Britain and Northern Ireland	1,252,408[2]	7,890,528	24,315,562	2,700,818
Greece	290,306	910,203	6,920,361	418,524
Hungary	892,131	1,812,376	1,573,180	2,582,255
Irish Free State	436,088	4,136,847	3,375,437	945,182
Italy[3]	989,786	6,239,741	11,753,910	2,338,926
Serb-Croat-Slovene State	1,140,343[4]	3,728,038	7,735,057	2,674,800[5]
Latvia	359,600	975,100	899,900	387,700
Lithuania	588,300	1,160,110	1,125,300	943,600
Netherlands	363,668	2,062,771	668,211	1,519,245
Norway[5]	177,169	1,224,182	1,533,015	289,039
Poland	4,046,734	9,056,749	2,523,493	4,828,641
Portugal (Continental)	80,078	767,904	3,683,828	1,117,354
Roumania	1,958,509	4,334,441	12,406,428	2,412,498
Spain	598,306	3,659,639	19,370,443	4,773,366
Sweden	627,503	2,897,717	805,867	1,368,898
Switzerland	159,668	1,587,399	169,723	637,098
Union of Soviet Socialist Republics in Europe and Asia	33,969,000	68,069,000	147,158,000[8]	20,890,000
Northern and Central America—				
Canada	3,376,487	8,930,988	3,728,309	4,381,725
Cuba	759,267	4,785,921	–	–
Dominican Republic	138,600	700,720	161,913	1,019,836
Mexico	1,035,782	37,064,850	36,208,981	1,436,638
United States	13,440,000[5]	57,967,000	48,913,000	52,600,000
South America—				
Argentina	9,432,421	37,064,850	36,208,981	1,436,638
Brazil	5,253,699	34,271,324	7,933,437	16,168,549
Chile	323,581	1,918,433	4,093,872	246,636
Columbia	978,000	6,727,000	771,000	1,366,000
Peru	192,600	1,292,607	11,334,390	428,305
Uruguay	513,299	8,431,613	22,000,000	251,253
Venezuela	167,708	2,278,000	113,439	512,086
French Guiana	1,568	488,893	109,100	3,018
Asia—				
British India	1,727,501	120,505,534	23,335,854	–
Formosa	279	92,058	499	1,718,369
Indo-China[2]	74,860	1,431,490	3,800	1,750,214
Iraq	–	–	5,054,954	–
Japan	1,494,269	1,483,806	19,495	763,638
Java and Madura	259,378	3,478,399	1,291,677	98,211
Korea	57,580	1,569,722	1,803	1,277,816
Philippines	336,300	1,136,600	395,100	10,567,900
Siam	283,440	4,256,438	–	864,247
Syria and Lebanon	53,559[2]	306,147	2,079,280	8,096
Turkey in Europe and Asia	490,161	6,934,482	10,166,444	–
Africa—				
Algeria	163,226	896,739	6,195,723	88,946
Egypt	38,369[1]	800,853	1,002,596	12,630
French Morocco[6]	197,053	2,016,823	8,847,930	44,912
French Soudan	40,710	909,000	2,424,000	28,500
Kenya	2,288	218,390	235,498	17,746[7]
Madagascar	2,884	7,658,933[6]	116,143	386,305
Nigeria	181,610	2,997,071	1,827,446	65,128
Southern Rhodesia	2,600	2,320,000	40,958[2]	67,000
Territory of S.W. Africa	18,832	655,478	1,344,634	10,068
Tanganyika	75	4,895,239	2,078,497	4,087
Tunis	88,632	498,144	2,460,714	12,728
Union of South Africa	856,040	10,517,999	45,011,946	514,039
Australasia—				
Australia	1,942,753	11,300,757	103,430,773	910,181
New Zealand	298,986	3,445,790	29,051,382	579,704

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[1] Exclusive of army horses. [2] Incomplete data. [3] According to the census of 1918 and therefore exclusive of invaded territory. [4] Horses employed in agriculture. [5] In rural districts only. [6] Number registered for fiscal purposes. [7] Only those belonging to Europeans. [8] Sheep and goats.

CHAPTER IX.—FORESTRY.[1]

Section 1.—Physiography, Geology and Climate as Affecting the Forests.

The Dominion of Canada may be roughly divided into three main drainage areas—the Pacific slope west of the Rocky mountains; the Great Plains region draining into the Arctic ocean and Hudson bay; and the basin of the Great Lakes and the St. Lawrence, together with the Maritime Provinces. Each of these three regions supports a distinct type of forest growth.

The Pacific Slope.—The Pacific slope is characterized by numerous systems of mountains running approximately parallel and extending from the southeast to the northwest. The Rocky mountains vary in elevation from 5,000 to 13,000 feet above sea-level, with numerous peaks extending well above 10,000 feet. Between this system and the Pacific are: the Columbian system, comprising the Selkirk, Monashee and Caribou mountains; the Interior Plateau system; the Cassiar and Yukon systems; the Pacific system, comprising the Cascade, Coast and lesser ranges, terminating with the sunken Insular system whose upper elevations form Vancouver island, the Queen Charlotte group and other coast islands. The chief rivers follow the valleys between these ranges, breaking through in some cases along the shorter cross valleys from east to west.

The Rocky mountains are formed chiefly of Palæozoic rocks, as are also the islands off the coast. The Coast range is almost entirely granitic and the Selkirks are Precambrian or Cambrian. The intervening ranges are of mixed formations, varying from rocks of sedimentary origin to granites. The best soil in British Columbia is concentrated in valley bottoms or alluvial deltas, and the purely agricultural area has been estimated at about 10 p.c. of the land area.

The climate along the coast is mild and humid, with a mean annual temperature varying from 44° to 49° F. The precipitation is the heaviest in Canada, varying from 40 to 120 inches. The greater part of this precipitation falls during autumn and winter however, only 30 p.c. falling during the growing season, to which fact is sometimes ascribed the scarcity of deciduous-leaved forest growth, which requires more moisture during the growing season. In any case, coniferous tree growth in this region is the most luxuriant in Canada, and the forests have the most rapid rate of growth, the largest individual trees and the heaviest stands of timber extending from sea-level up to elevations of 3,500 or 4,000 feet. The Interior Dry belt of British Columbia has a low annual precipitation, varying from 10 to 20 inches. Extremes of temperature from 100° F. to —45° F. make this a region unfavourable to tree growth. The winds from the Pacific, which precipitate most of their moisture on the Coast and Cascade mountains, cross this interior plateau, leaving its southern part in a semi-arid state, and give up a large part of what moisture remains when they reach the Selkirk and

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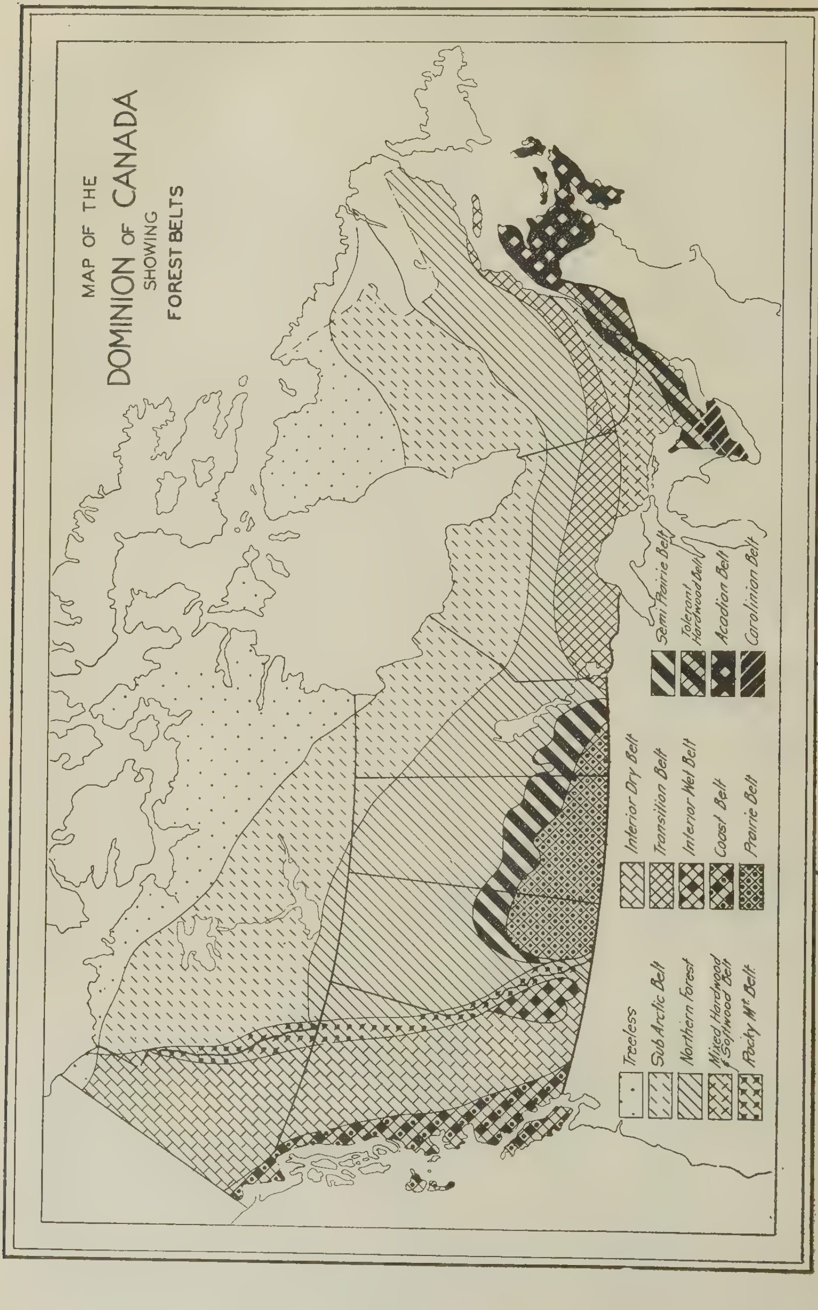
[1] Material in this Chapter has been prepared in co-operation with Roland D. Craig, F.E., of the Forest Service of the Department of the Interior, by R. G. Lewis, B.Sc.F., Chief of the Forest Products Branch of the Dominion Bureau of Statistics. This Branch collects and compiles statistics relating to forest production and publishes four annual printed reports covering the lumber industry, the pulp and paper industry and the wood-using and paper-using industries of Canada. These printed reports are usually preceded by a number of preliminary mimeographed reports, one for each important industry or group of industries. For detailed list of publications see Chapter XXVIII.


MAP OF THE
DOMINION OF CANADA
SHOWING
FOREST BELTS
Treeless
Sub Arctic Belt
Northern Forest
Mixed Hardwood & Softwood Belt
Rocky Mt. Belt
Interior Dry Belt
Transition Belt
Interior Wet Belt
Coast Belt
Prairie Belt
Semi Prairie Belt
Tolerant Hardwood Belt
Acadian Belt
Carolinian Belt

Rocky mountains, forming what may be termed the Interior Wet belt, centred in the Columbia valley. Here the precipitation averages over 30 and sometimes reaches 60 inches, taking the form of snow in higher altitudes. Temperatures vary from 100° F. to —17° F. In the Rocky Mountain range itself, the climate is more extreme and variable than to the westward.

The Great Plains.—East of the Rockies lies the Great Plains region, composed of a variety of topographical types. From the foothills of the Rockies, the country slopes gradually eastward and northward. The prairie country extends from the International Boundary to the 55th parallel along the foothills, gradually tapering down toward the east to a point near the lake of the Woods. Of this area, 105,000 square miles is now almost entirely treeless, with rich fertile soil, and is at present a purely agricultural or pastoral country. Whether its present treeless condition is due to climatic or other causes is problematical, but the presence of isolated patches of tree growth in situations well protected from fire, the ease with which these natural groves can be increased and new plantations established by artificial planting and protection from prairie fires, would seem to indicate that repeated burning accounts, at least in part, for its present treeless state. The underlying rocks are of the Cenezoic and Mesozoic eras. The climate of Alberta is extremely variable in winter, due to a warm, dry wind known as the *Chinook,* which blows from the south and southwest and extends its influence from the International Boundary to the Peace river and eastward to Regina in Saskatchewan. In summer the isotherms run almost due north and south in Alberta. Rainfall varies from 15 to 20 inches. The temperature in Manitoba has an absolute recorded range of 150° F., with a mean range of 71°. Saskatchewan and Alberta are more temperate, especially where they are affected by the *Chinook.* North of the treeless prairies is a region largely unexplored, covered at first by a comparatively light forest growth which toward the north and east gives way to the sub-Arctic "tundra"—a region of muskeg and bare, glacier-worn rocks of the Laurentian and Precambrian types.

These Laurentian rocks in Canada form the Archæan or Canadian Shield, with a distinct type of topography. This rock formation covers a huge irregular triangle with its apex near the Thousand islands in the St. Lawrence, from which point one arm extends northwesterly to the mouth of the Mackenzie river and the other northeasterly down the St. Lawrence valley to include the Labrador peninsula. This entire region has been reduced to a peneplain condition by repeated glacial action which has worn down the high elevations and scoured out most of the soil except in isolated depressions. It is covered with innumerable lakes, muskeg or bog, and rivers. The southern portion of the Shield is to a great extent agricultural land, actual or potential, much of which is still heavily forested. Toward the north tree growth becomes lighter and the climate as a rule becomes too severe for continuous successful agriculture. Still further toward the north, tree growth ceases and the region merges into the same belt of sub-Arctic "tundra" already mentioned.

The St. Lawrence Basin and the Atlantic Slope.—The basin of the St. Lawrence and Great Lakes contains a variety of topographical and geological types. The north shores of lake Superior and Georgian bay, the upper Ottawa River valley and the southern part of Labrador, are part of the Laurentian Shield already described. Here the climate is tempered in part by the presence of the lakes and the gulf of St. Lawrence, but is, nevertheless, severe and variable.

To the south, soil and climate improve, and the southwestern peninsula of Ontario, the north shore of lake Ontario and the St. Lawrence valley are all essentially agricultural land. The rock here is of sedimentary origin, mostly of the Palæozoic age.

The Maritime Provinces, with a general slope towards the Atlantic, are varied in topography and geology. The climate resembles that of southern Ontario, being modified by the presence of the ocean. Precipitation is above 35 inches annually. This region supports a type of forest similar to that of the southern portion of the Archæan Shield.

Section 2.—Main Types of Forest Growth.

Physiographic, climatic and soil conditions in Canada seem to favour the coniferous type of forest. While the more fertile portions of Ontario, Quebec and the Maritime Provinces supported a heavy virgin growth of hardwoods, the greater part of Canada's forest area is covered with spruce, pine, balsam, Douglas fir and other coniferous softwoods. Three main groups of forest growth in Canada follow the main physiographic divisions already mentioned. These groups are the Cordilleran, the Great Plains and the Eastern forests.

The Cordilleran Forest.—The Cordilleran forest, which covers the greater part of the Pacific slope, may be subdivided into the Coast belt, the Interior Dry belt, the Interior Wet belt and the Rocky Mountain belt. The Coast belt includes several distinct forest types, their character being determined by variations in climatic and topographic conditions, among which altitude and precipitation have had the greatest effect on forest growth. Douglas fir and red cedar are the principal species in the southern portion of the belt at altitudes up to 2,000 or 2,500 feet. With these are associated hemlock, white pine, amabilis and lowland fir. Toward the north and at higher altitudes, Douglas fir disappears and red cedar and hemlock are the important trees, with amabilis fir and yellow cypress as subsidiaries. In the Queen Charlotte islands and along the northern part of the coast, Sitka spruce and western hemlock form a lowland type.

In the Interior Dry belt western yellow or "bull" pine predominates at low altitudes, bordering on the grass lands. Douglas fir gradually increases in importance until it predominates at elevations up to 3,500 and 4,500 feet. Western larch covers a limited area usually between the true yellow pine and Douglas fir types. At the northern latitudinal and upper altitudinal limits of the Douglas fir type, an Engelmann spruce type develops, which merges into a spruce-alpine fir type at still higher altitudes. Lodgepole pine has taken the place of Douglas fir, Engelmann spruce, and, in some cases, yellow pine on burned-over areas, and has become to a considerable extent established as a distinct type.

Forest types similar to those of the coast have developed in the Interior Wet belt. In the southern portion of this belt, red cedar predominates in the wetter situations, mixed with Douglas fir, Engelmann spruce, white pine, hemlock, western larch, alpine fir, lowland fir and cottonwood. On the benches and lower valley slopes, hemlock and cedar are the important species. Engelmann spruce replaces hemlock at higher elevations, cedar gradually disappears and the spruce-alpine fir type stretches up to timber line. To the north, Engelmann spruce and alpine fir are more prominent and the other species are gradually eliminated.

The Rocky Mountain belt includes portions of the Dry Belt types to the south and those of the Interior Wet belt farther north. Otherwise the typical forest of the Rocky mountains is made up of Engelmann spruce and some white spruce, with an increasing proportion of alpine fir as the altitude increases. This type has suffered so severely from fire, especially on the dry eastern slopes, that lodgepole pine has established itself permanently in some cases and temporarily in others on burned-over areas.

In the sub-Arctic belt, comprising the Yukon plateau and that part of the Rocky Mountain system north of 58°, the general elevation is over 4,000 feet, the climate is severe, the growing season short and precipitation scant. As a result, tree growth is slow and confined to favourable sites in valleys. The timber is small and of poor quality. It is, however, of great local value in the mining industry and to trappers. The principal type is the spruce-alpine fir, with lodgepole pine on poorer sites, and poplar and willow on richer soils on burned-over areas.

Most of the commercially important species of the Cordilleran region are confined to British Columbia. The spruce-fir-lodgepole pine type of the northern interior extends across the Rockies into the foot-hills of Alberta. Certain species, such as Douglas fir, Engelmann spruce, lowland and alpine fir and lodgepole pine, are also found in western Alberta, but in few cases do they extend any great distance eastward.

The Forests of the Great Plains.—The Great Plains region may be divided into the Prairie, Northern Forest and sub-Arctic belts. There are no great variations in altitude in the region, and latitude and soil conditions, especially drainage, determine the distribution of forest types. The Prairie belt in southern Alberta, Saskatchewan and Manitoba extends north from the International Boundary for 200 to 400 miles. Patches of tree growth in protected situations are made up chiefly of aspen poplar, with some white spruce and jack pine. North of this purely agricultural and pastoral area is the great Northern Forest belt, from 300 to 400 miles wide, which extends from Alaska to Labrador, covering the greater part of the Laurentian Shield as far as the limits of commercial tree growth. Originally, white spruce predominated over this entire belt and it still forms the most important type commercially, although it has suffered severely through forest fires. In the East, balsam fir is an important associate, and the spruce-balsam fir type makes up most of the pulpwood resources of Eastern Canada. The black spruce type, frequently associated with eastern larch (tamarack), occupies poorly-drained areas within this belt. Enormous areas have been burned over by forest fires. Aspen poplar has replaced the spruce and balsam on the best soil in these areas, and is now the most prevalent species, although it will eventually be replaced by conifers where natural reproduction is possible. Over vast areas, however, there is no immediate prospect of securing a return to coniferous forest by natural agencies. Jack pine has taken possession of the dryer, lighter soils, in some cases permanently. Paper birch comes in with aspen poplar toward the east, and balsam poplar occurs in the moister situations. Jack pine, aspen and balsam poplar reach a higher development along the Peace river in northern Alberta than they do elsewhere in America. Along its northern margin this belt merges into the sub-Arctic "tundra", with tree growth confined to narrow strips along waterways.

Vigorous tree growth and fairly large timber are found along these shallow valleys as far north as 67°, indicating that soil conditions, especially drainage, are more important than climate in defining the limits of tree growth. To the northward, balsam fir disappears early from the forest growth, followed by balsam poplar, jack pine, aspen and paper birch, leaving white spruce, black spruce, tamarack or larch, and willow to define the northern limit of tree growth. This may be roughly indicated by a line drawn from the mouth of the Mackenzie river on the Arctic ocean to the mouth of the Churchill river on Hudson bay and across the Labrador peninsula at about 58° N. latitude.

The Eastern Forests.—In southeastern Canada a number of belts of forest growth with distinctive characteristics are recognized. The hardwood belts include the Carolinian zone, confined to the north shore of lake Erie and the western part of lake Ontario. This is important only as forming the northern fringe of a type which covers a large area in the central Eastern United States, and includes a number of species such as tulip, sassafras, etc., not found elsewhere in Canada. North of this zone, still in the purely agricultural and pastoral area, the original forests were of the commercially important hardwoods, such as maple, elm, basswood, oak, yellow birch, hickory and beech, with patches of pine, hemlock and other conifers on the lighter soils. This area has been largely cleared and devoted to agriculture, and the original forest type is to be seen only on farmers' woodlots.

Since the beginning of the lumbering industry in Canada, the region north of this belt, extending, roughly speaking, to the height of land between the St. Lawrence and Hudson Bay waters, has been the centre of the most extensive exploitation, and still occupies that position as far as Eastern Canada is concerned. The forest types which still exist in this region vary considerably owing to soil and other conditions, but generally speaking white pine occupies the better situations on the lighter soils, and reaches its highest development in this belt. With it is frequently associated the red or Norway pine. On heavier soils, spruce, hemlock and the tolerant hardwoods also form an important part of the stand. Cedar, tamarack and black spruce form typical stands in poorly drained situations. Hardwood ridges, carrying chiefly maple and yellow birch, occur in the southern part of this belt. These, with hemlock, extend north to a line running approximately from the northeast corner of lake Superior to the mouth of the Saguenay river. The extensive lumbering operations of the past century, together with repeated forest fires, have greatly modified these original types. The exclusive cutting of white and red pine, practised until recently, has resulted in the displacement of these species by spruce, balsam fir, jack pine and the hardwoods, the spruce-balsam fir pulpwood areas being the most valuable type remaining. Jack pine has come in extensively on burned-over areas on lighter soils and in some cases has taken permanent possession of such sites. On account of its value for railway ties and pulpwood and the ease with which it can be grown it is not at all an undesirable species to perpetuate. Aspen and paper birch are also rapidly becoming established as temporary types. Along its northern border, this mixed hardwood and softwood type merges into the northern forest belt already described, with the disappearance of first the hemlock and the tolerant hardwoods and then the white and red pines.

The Acadian belt covers the Maritime Provinces and the south shore of the St. Lawrence in Quebec. The forest is similar to that of the New England states, being characterized by red spruce. With this are found varying proportions of white spruce and balsam fir. In the mixed softwood and hardwood type, which also occurs in this belt, white pine and hemlock occur, with yellow birch, maple and beech representing the commercial hardwoods. Cedar is fairly abundant in the western portion of this region. Burned-over areas in the Acadian belt are chiefly occupied by aspen and white birch as temporary species.

Section 3.—Important Tree Species.

In Canada there are approximately 160 different species and varieties of plants reaching tree size. Only 31 of these are coniferous, but their wood forms 80 p.c. of our standing timber and 95 p.c. of our sawn lumber. While the actual number of species of deciduous-leaved trees seems large in comparison to their commercial importance, out of a total of some 90 species and varieties only four or five are worthy of comparison with the conifers. A detailed description of the more important species of Canadian forest trees was given on pp. 282-285 of the 1924 Year Book.

Section 4.—Forest Resources.

Areas.—The total land area of Canada, revised according to the Labrador Boundary Award of 1927, is estimated at 3,510,008 square miles, of which 560,000 square miles is considered as being suitable for agricultural or pastoral purposes. According to the 1921 census about 220,134 square miles of this agricultural land was occupied and about 115,770 square miles was improved.

The total area covered by existing forests has been estimated at 1,151,454 square miles, of which about 82,260 square miles is land which, if cleared, would be suitable for agriculture. Under the most economic arrangement about 52,000 square miles of this last area would be cleared and devoted to field crops and pasturage and the remaining 30,000 square miles would be, and no doubt will be, left under forest cover in the form of farmers' woodlots. This leaves an area, of about 1,100,000 square miles of land which could be utilized to the best advantage under forest.

Of the total area under forest at the present time, amounting to 1,151,454 square miles and including the 82,260 square miles of agricultural land, about 200,000 square miles carries mature merchantable timber, 111,234 square miles carries immature but nevertheless merchantable timber and 554,646 square miles carries young growth which if protected from fire and other damage will eventually produce merchantable timber. All this area is so situated as to be commercially exploitable at present. The remaining 285,574 square miles is considered as inaccessible or unprofitable to operate under present conditions. As the result of the constant and inevitable improvement in conditions affecting profitable exploitation, such as the extension of settlement and transportation facilities, the increasing world scarcity of forest products, and the ever increasing demand for these products, due to the development of industry and the discovery of new uses for wood, and the improvements in the methods, equipment and machinery used in logging and manufacturing forest products, most of this inaccessible timber will eventually become commercially exploitable.

In Canada as a whole about 6·6 p.c. of the total forest area has been permanently dedicated to forest production. Previous to the transfer of natural resources to the Western Provinces in 1930, some 33,023 square miles of this reserved area comprised National Forests. Most of these are likely to be continued as provincial forests. In British Columbia the forest reserves and parks include 11,890 square miles; in Ontario 23,855 square miles; and in Quebec 9,489 square miles, making a total of 78,257 square miles.

Of the total forest area 9·6 p.c. has been permanently alienated, being owned in fee simple by private individuals or corporations. On 13·2 p.c. of the area the Crown still holds title to the land but has alienated the right to cut timber under lease or licence. So far 77·2 p.c. has not been alienated in any way. It may be said that 90·4 p.c. of Canada's forest area is still owned by the State and, subject only to certain temporary privileges granted to limit holders, may at any time be placed under forest management and dedicated to forest production.

Volume of Standing Timber.—In 1928 the total stand of timber in Canada was estimated to be approximately 224,304 million cubic feet, of which 177,362 million cubic feet was of coniferous species and 46,942 million cubic feet of broad-leaved species.

During the years 1924-1928 the average annual depletion due to use was approximately 2,000 million cubic feet of conifers and 900 million cubic feet of hardwoods. The annual loss from fire is estimated at 240 million cubic feet of conifers and 60 million cubic feet of hardwoods. Though no widespread epidemics of insects or fungous diseases have occurred, two local infestations of hemlock looper in Ontario and Quebec were successfully checked by means of poison-dusting from aircraft. Nevertheless there is a constant and considerable endemic loss from both insects and decay. However, in the absence as yet of any basic data on which to estimate the depletion from these causes, it may be taken as perhaps 800 million cubic feet. The total annual depletion during the five-year period is therefore estimated to have been about 4,000 million cubic feet. To what extent this loss has been replaced by growth increment is not known, but, considering the preponderance of the younger age classes in the reproduction, it is believed there has been a considerable net depletion in the merchantable age classes.

Another real difficulty being met with is the matter of dividing the existing stand into merchantable timber and that which is inaccessible or unprofitable, since merchantability depends not only on the location, but on the density of the stand, the demands of the market for certain species or qualities of product, and the regulations governing cutting. Light stands covering large areas may in the aggregate carry very large amounts of timber and still not be exploitable at a profit. For some species, such as aspen and white birch, which comprise three-quarters of the hardwoods, there is very little demand, and therefore these cannot properly be classed as merchantable, though accessible as far as location is concerned.

In June, 1929, a conference of the Dominion and provincial forest authorities was held in Ottawa and it was decided to undertake a national inventory of the forest resources of Canada, each authority conducting the necessary stock-taking surveys on the land under its jurisdiction. In connection with the inventory, definite data are being secured regarding the depletion due to use, fire, insect damage, etc., and the increment accruing. Five years was set as an objective for the completion of an inventory of at least the more accessible parts of the area.

This national inventory, which is being organized under the direction of the Department of the Interior, and related studies of increment and decrement should shortly begin to throw new light on many problems.

Under present conditions it is doubtful whether more than 100,000 million cubic feet of conifers and 15,000 million cubic feet of hardwoods can be considered as merchantable.

1.—Estimate of Total Stand of Timber of Merchantable Size in Canada, by Regions, 1928.

Region.	Conifers.			Broad-leaved.			Totals.		
	Saw Material.	Small Material.	Total equivalent in Standing Timber.	Saw Material.	Small Material.	Total equivalent in Standing Timber.	Saw Material.	Small Material.	Total equivalent in Standing Timber.
	million feet board measure.	1,000 cords.	million cubic feet.	million feet board measure.	1,000 cords.	million cubic feet.	million feet board measure.	1,000 cords.	million cubic feet.
Eastern Provinces	45,193	476,322	65,662	31,845	160,995	25,811	77,038	637,317	91,473
Prairie Provinces	17,484	275,564	36,070	9,338	159,921	20,756	26,822	435,485	56,826
British Columbia	320,000	47,435	75,630	777	1,756	375	320,777	49,191	76,005
Totals	**382,677**	**799,321**	**177,362**	**41,960**	**322,672**	**46,942**	**424,637**	**1,121,993**	**224,304**

Section 5.—Forest Administration.

Subsection 1.—Administration of Dominion and Provincial Timber Lands.

In Canada the general policy of both the Dominion Government and the Provincial Governments has been to dispose of the timber by means of licences to cut, rather than to sell timber land outright. Under this system the State retains the ownership of the land and control of the cutting operations. Revenue is derived in the form of stumpage bonuses (either in lump sums or in payments made as the timber is cut), annual ground rent, and royalty dues collected as and when the wood is removed. Both ground rent and royalty dues may be adjusted at the discretion of the Governments so that the public may share in any increase in stumpage values, or, as has happened, reductions may be made in the rates if conditions demand them.

The Maritime Provinces did not adopt this policy to the same extent as did the rest of Canada. In Prince Edward Island all the forest land has been alienated and is in small holdings, chiefly farmers' woodlots. In Nova Scotia 76 p.c. of the forest land is privately owned; nearly half of this is in holdings exceeding 1,000 acres. In New Brunswick nearly 50 p.c. has been sold, and 20 p.c. is in holding exceeding 1,000 acres. The percentage of privately-owned forest land in the other provinces is as follows:—Quebec, 7 p.c.; Ontario, 3·3 p.c ; Manitoba, 11·3 p.c.; Saskatchewan, 10·4 p.c.; Alberta, 15·7 p.c. and British Columbia, 13 p.c.

Until 1930 the Dominion Government administered the Crown lands, including timber lands, in the provinces of Manitoba, Saskatchewan and Alberta, in the Railway Belt and Peace River Block of British Columbia, and in the Yukon and Northwest Territories, but the forests as well as the other natural resources in the western provinces have now been transferred to provincial control. In all cases timber lands are now administered by the provinces in which they lie. As new regions are explored, their lands are examined and the agricultural land disposed of. Absolute forest land is usually set aside for timber production, and the policy of disposing of the title to lands fit only for the production of timber has been virtually abandoned in every province in Canada. The ownership of forests by towns and communities, so common in Europe, is now beginning in Canada. Efforts are being made, especially in Quebec and Ontario, to encourage the establishment and maintenance of forests on this basis.

Timber Lands Under Dominion Control.—The National Parks of Canada Branch of the Department of the Interior administers the Dominion parks, now embracing some 12,822 square miles. These are primarily national playgrounds and game preserves, the timber being practically withdrawn from commercial use. The North West Territories Branch of the Department of the Interior administers and protects forest land lying north of the provincial areas. The Department of Indian Affairs administers, in trust for the Indians, all timbered areas within their reservations. Under the Board of Railway Commissioners, a Chief Fire Inspector has charge of fire protection along nearly all the railway lines in Canada.

Forest Administration in the Prairie Provinces.—Upon transfer of the resources in 1930, each province took steps toward the creation of an adequate forest service with a Provincial Forester in charge. In Manitoba the service is under the Department of Mines and Natural Resources, and in its forest regulations framed under the Manitoba Forest Act, the former Dominion Forest Reserves and Crown Timber Regulations are very largely incorporated. In Saskatchewan and Alberta, a closely similar policy is being followed. In every case the central object of policy is to safeguard the regeneration of valuable species in the natural forest types.

Approximately 27,335 square miles of forest lands in the Prairie Provinces are privately owned.

British Columbia.—In the province of British Columbia, the Forest Branch of the Department of Lands has administered timber lands since 1912. All unalienated lands in the province which are examined and found to be better suited to forest than to agricultural production are dedicated to forest production, and all timber lands carrying over a specified quantity of timber are withdrawn from disposal until examined by the Forest Branch. During the last few years, 10,182 square miles have been set aside permanently for forest purposes. The present practice is to sell cutting rights for a stated period by public competition, but licences to cut, which are renewable annually in perpetuity, have been granted for a large proportion of the accessible timber. The royalties are adjusted periodically on the basis of prevailing industrial conditions. About 3,000 square miles of timber land are privately owned.

Ontario.—Forest administration is carried out in Ontario under the Department of Lands and Forests, which is subdivided into two divisions, each under a separate Deputy Minister. The Lands and Forests Division controls timber sales and the Forestry Division has charge of reforestation, protection, air service, forest surveys and investigations. The Forestry Board, consisting of representatives from forest industries, the Toronto University Faculty of Forestry and the Deputy Minister of Forestry, functions in an advisory capacity.

In recent years the sale of saw timber has been by tender after examination with conditions covering the removal within a specified period, disposal of *débris,* etc. Much of the merchantable timber is at present held under licences granted in the past and renewable indefinitely. Pulpwood areas are usually disposed of by individual agreements for longer periods than in the case of saw timber. Manufacture in Canada was made a condition in the disposal of all softwood saw timber in 1897, of all pulpwood in 1900 and of all hardwood in 1924. In some individual pulpwood agreements the licensee must undertake not only to erect a pulp-mill but also a paper-mill within the province, the type of mill being stipulated in the agreement. In this province about 7,972 square miles of forest land have been disposed of outright.

Quebec.—The Forest Service of the Department of Lands and Forests administers the timber lands in Quebec; its powers include classification of land, disposal of timber and regulation of cutting operations. Forest protection has been since 1924 under a separate organization, the Forest Protective Service. Licences are granted after public competition and are renewable from year to year, subject to changes in royalty by the Government at any time. Grants of land in fee simple, made in some cases under the French *régime* in Quebec, are responsible for the private ownership of about 34,173 square miles of forest land.

New Brunswick.—The Forest Service, under the Department of Lands and Mines, and a special Forestry Advisory Commission, form the forest authority in New Brunswick. The Forestry Advisory Commission, consisting of the Minister of Lands and Mines, the Deputy Minister, the Chief Forester, a lumberman representing the licensees of Crown Lands, and one representing the private timberland owners, is appointed to advise on matters of policy. At present timber lands are disposed of as in the other provinces, but in the past several grants of forest land were made to railway companies, private concerns and individuals, who now own in fee simple about 10,675 square miles of forest land.

Nova Scotia.—In Nova Scotia the greater part of the forest land, amounting to 12,300 square miles, has passed into private ownership, but the system of disposal of timber by licences to cut is now being followed. What remains vested in the Crown is administered by the Chief Forester under the Minister of Lands and Forests. Under the Minister, the Chief Forester has charge of forest protection, surveying and scaling throughout the province.

Subsection 2.—Forest Fire Protection.

The protection of forests from fire is undoubtedly the most urgent and most important part of the work of the different agencies administering forest lands in Canada. With the exception of the National Parks, the Northwest Territories and the Yukon, which remain under Dominion control, this work is now the function of the individual provinces. Up till the end of the fire season 1930, the Forest Service of the Department of the Interior was responsible for fire protection in the Prairie Provinces of Manitoba, Saskatchewan, and Alberta, and the Railway Belt of British Columbia. However, by reason of the transfer of natural resources from Dominion to provincial control, their administration is now a matter of provincial concern.

With the exception of the small province of Prince Edward Island, each of the Provincial Governments now administering its own forests, maintains a fire protection organization which co-operates with owners and licensees for the protection of all timbered areas, the cost being in part distributed or covered by special taxes on timber lands. In each province, with the exception just mentioned, provincial legislation regulates the use of fire for clearing and other legitimate purposes and provides for closed seasons during dangerous periods. An interesting development in this connection in the province of Quebec is the organization of a number of co-operative protective associations among lessees of timber limits. These associations have their own staffs which co-operate with those of the Board of Railway Commissioners and the Provincial Government. The latter contributes in the way of money grants and also pays for the protection of vacant Crown lands lying within the area of the associations' activities.

In the matter of forest fire protection along railway lines, the provincial services are assisted by the Dominion Railway Act administered by the Board of Railway Commissioners. This Act gives to that body wide powers relating to fire protection along railway lines under its jurisdiction in Canada. Certain officers of the various forest authorities are appointed *ex officio* officers of the Board of Railway Commissioners. These officers co-operate with the railway fire-ranging staffs employed by the various railway companies, the compulsory control of all lines coming under the jurisdiction of the Board being one of the requirements of the Dominion Railway Act.

The most important single development in forest fire protection in late years has been in the use of aircraft for the detection and suppression of incipient forest fires. Where lakes are numerous, flying boats can be used for detection and for the transportation of fire fighters and their equipment to fires in remote areas. Where safe landing places are few and no other lookout system has been developed, as in northern Alberta, land machines are used for the detection and inspection of fire only; but in the Laurentian area where lakes are numerous, flying boats are used both for observation and control. Specially developed aircraft equipped with wireless are employed on forest fire-protection operations, which thus enable the observer to report the location of the fire as soon as it has been detected. Aircraft are now being used extensively for exploring remote areas and mapping forest lands by means of aerial photography. Waste lands and the various forest types can be mapped more accurately and more economically by this means than by ground surveys. As a general rule aircraft are used in the more remote districts, while lookout towers connected by telephone lines or equipped with wireless are established in the more settled and more travelled forest areas. While these agencies have to a large extent supplanted the old canoe, horseback and foot patrol for detection of fires, a large ground staff with its equipment stored at strategic points will always be necessary for the fighting of larger fires, and the maintenance of systems of communication and transportation and of fire lanes and fire guards in the forest.

The most important improvement in forest fire-fighting equipment has been the portable gasolene pumps. These pumps, which each weigh from 45 to a little over 100 pounds, can be carried to a fire by car, canoe, motor boat, automobile, aircraft, pack saddle or back pack. They can deliver efficient water pressure up to seven thousand feet from a water supply and, when used in relays, at a much greater distance. Smaller hand pumps are also used effectively in many cases.

In addition to these improved measures, legislation has also tended to reduce the fire menace. The establishment of closed seasons for brush burning and seasons during which permits are required for setting out fires and for travel in the forest during dangerous dry periods, have been of enormous value as preventive measures.

None of these measures would be effective without the support of the general public, and in 1900 the Canadian Forestry Association was founded, its chief object being the securing of popular co-operation in reducing the forest fire hazard. This Association now has a membership of 32,000 and an income of $136,000, mostly secured by voluntary private subscription. Fifteen of the Association's paid lecturers tour the country, using special railway lecture cars and motor trucks equipped with self-contained motion picture equipment, showing special films taken by the Association. Two high class sporting and outdoor magazines, one in French and one in English, are published monthly by the Association as educational media. Prepared lectures illustrated by slides and films are distributed to volunteer lecturers and other educational work is carried on in schools and at public meetings. The different Dominion and provincial forest authorities also carry on extensive publicity work independently and in co-operation with the Canadian Forestry Association.

Another interesting development in forest protection has been the establishing of special meteorological stations for the study of the effects of weather conditions on the fire hazard, and the broadcasting of special forecasts of hazardous fire weather.

Subsection 3.—Scientific Forestry.

Up to the present the practice of forestry in Canada has consisted chiefly in the administration and protection of existing forest areas. Some 35 square miles is now being planted out annually, largely in connection with farmers' woodlots, shelter belts, and reclamation work, although several commercial reforestation projects are being carried on by paper companies and by the Ontario Government on denuded Crown lands. The great forestry problem in Canada, however, is the management of Crown forests, first under provisional and later more intensive working plans, so as to ensure a sustained yield. To this end, forest research activities are now assuming great importance. Silvicultural investigations are receiving marked attention both from the Dominion service and some of the provincial services.

Some 200 technical foresters find employment either under the Dominion and provincial forest services or in many of the paper and lumber companies. In addition to administrative work, these men carry on forest surveys either for the estimating of timber stands and making of maps, or to determine natural growth and reproduction conditions and factors. They also direct any planting or nursery work and the regulation of commercial logging operations along forestry lines.

The Research Division of the Dominion Forest Service has established permanent forest experiment stations at Petawawa, Ontario and at Lake Edward, near Grand'Mère, in Quebec, and carries on similar experimental work at other points throughout Canada. A considerable amount of this work is done in co-operation with provincial forest services and with pulp and lumber companies.

The Forest Service of the Department of the Interior is now conducting a National Forest Inventory in co-operation with the various Provincial Governments. It is expected that in so far as the commercially accessible timber is concerned, this inventory will be completed by 1934. An important feature is that the Forest Service is conducting special rate-of-growth surveys in each province to determine the nature and extent of the natural reproduction, and the annual increment now being secured under varying conditions of site and type, following cutting or forest fires. The valuable silvical data thus obtained will provide a sound basis for future forest policies.

Another important phase of forest research is found in the work of the Dominion Forest Products Laboratories in determining the best methods of forest utilization, that is, the converting of standing timber into saleable commodities with a minimum of waste.

These Laboratories, established by the Dominion Forest Service at Ottawa, and in connection with the University of British Columbia, at Vancouver, carry on investigatory work in forest products, covering the strength, durability and other mechanical, physical and chemical qualities of Canadian woods, methods of seasoning, preservation from decay, and chemical utilization in wood distillation and other industries. A special pulp and paper division of the laboratories is located in Montreal, the recognized business centre of the industry, in the Cellulose Institute of the Canadian Pulp and Paper Association. The division is in close co-operation in this connection with the Association and with McGill University. Much credit is due to the forestry departments of some of the pulp companies for pioneering work in forest research.

Education in forestry and allied subjects and opportunities for research are offered by four Canadian universities and by other agencies. The University of Toronto, the University of New Brunswick at Fredericton, and the University of British Columbia at Vancouver, provide four-year courses leading to a professional degree. The School of Forestry and Surveying in connection with Laval University at Quebec provides, in the French language, a combined course of four years' duration, leading to diplomas in both sciences. The Government of Quebec has established a school in paper-making at Three Rivers in the heart of the paper industry; several agricultural colleges provide short courses in farm forestry, and a school for forest rangers has been established at Berthierville by the Quebec Forest Service.

The practice of forestry by individuals and private concerns is encouraged by the furnishing of expert advice by Dominion and provincial services and by the distribution of tree-planting material. The Dominion Forest Service maintains two nurseries in Saskatchewan, one at Indian Head and the other at Sutherland, near Saskatoon. Over 7,000,000 trees are distributed annually to farmers and ranchers in the Prairie Provinces for planting woodlots and wind-breaks. If certain conditions are fulfilled, the material and instructions are provided free except for transportation charges. A total of 116,000,000 trees have been distributed.

The province of Ontario provides material under similar conditions, and distributes to woodlot owners at least 7,000,000 trees annually, from its five nurseries. As many more are being provided for the creation of county forests, demonstration forests and plantations on denuded Crown lands. To encourage the establishment of communal forests by towns and other municipalities, the Provincial Government undertakes to plant free of charge any area purchased by the municipality for this purpose. The Government also assists counties which purchase areas of not less than 1,000 acres of land for forest purposes. As a result of these inducements there are at present scattered throughout the province 50 communal forests owned by municipalities and eight of the larger county forests. Farm land used for forestry purposes, while so used, is exempt from taxation up to 10 p.c. of the total farm area but not exceeding a total of 20 acres.

In Quebec, a forest nursery at Berthierville serves as a demonstration station for the School of Forestry and as a location for the forest ranger school. It provides trees for sale and distribution in the province, comprising seedlings and transplants for forest planting, and larger trees for ornamental purposes. The capacity of the nursery has been raised to 10,000,000 trees. Provision is made by legislation for the creation of communal forests, and there are now 74 of these containing 584,798 acres.

Section 6.—Forest Utilization.[1]

Historical.—The forest has always played a large part in the life of the pioneer in Eastern Canada, providing him with building material and fuel but opposing his agricultural efforts. The material removed in clearing the first fields was usually more than sufficient for his needs, and in many cases what would now be valuable timber was piled and burned by the early settler. Local trade in lumber began in New France shortly after 1650. The first attempts at forest conservation took the form of setting aside areas of timber for the use of the navy, and the first exports were of shipbuilding material and spars. Sawmills were established along the St. Lawrence before the close of the seventeenth century. While there was no recorded transatlantic trade in forest products other than naval supplies, shipments of lumber and staves were made to the French West Indies during the French *régime*. Shipbuilding became an important local industry and gave rise to considerable forest exploitation.

Transatlantic trade began to develop after the Conquest, stimulated by bounties and tariff privileges granted with the object of reducing England's dependence on Baltic supplies, especially in connection with naval material. This trade, however, did not develop satisfactorily until the beginning of the nineteenth century, when Napoleon succeeded in interfering seriously with imports of wood into England from the Baltic. The export of timber from Canada increased enormously, and the square timber trade in white pine and oak spread from the St. Lawrence and Richelieu valleys to lake Champlain and Upper Canada and especially into the Ottawa valley. This trade reached its height in the '60's and has steadily declined since that date.

Sawmilling on a large scale followed the square timber trade and the establishment of small custom mills followed in the wake of the settler. The building of wooden ships in the St. Lawrence valley and the Maritime Provinces developed hand in hand with the lumber industry, providing a local demand for timber and a means of exporting it overseas. The British preferences were reduced and finally abolished about 1860.

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[1] An article on "The History of the Canadian Lumber Trade", by A. R. M. Lower, M.A., appears at pp. 318-323 of the 1925 edition of the Canada Year Book.

The export trade in sawn lumber to the United States developed from 1820 to 1830 and gradually replaced the more wasteful overseas square timber trade, but it was not until after Confederation that the export of sawn lumber by sea exceeded that of square timber.

Encouraged by the free entry of raw materials into the United States, an important trade developed, especially in Ontario, in the exportation of saw logs to be sawn into lumber in American mills. The Provincial Government prohibited the exportation of this material, when cut on Crown lands, about 1900 and effectively checked this economic loss. Similar legislation has since been passed by the Dominion and the different Provincial Governments and has been extended to pulpwood and other raw or unmanufactured forest products.

The lumber industry which began in Quebec and New Brunswick and extended into Upper Canada has since moved gradually through "Old" Ontario along the Upper Ottawa and its tributaries, around Georgian bay, into "New" or northern Ontario and through the Lake of the Woods and Rainy River districts. It is still an important industry in these regions. Lumbering to the north of the prairies, where the timber was never particularly large nor abundant, has progressed with the settlement of the district, but the production does not usually exceed the local demand. In 1908 British Columbia provided less than a fifth of Canada's lumber production, but in 1928 this proportion had increased to 53 p.c., showing the rapid westward movement of the centre of production. British Columbia has added several new tree species to the lumber market and at present possesses the heaviest stands and the largest individual trees in Canada.

Remarkable developments in the manufacture of pulp and paper in the twentieth century have caused a second wave of forest exploitation to sweep over Eastern Canada, and have given rise to an industry which has already surpassed the manufacture of lumber and is to-day the most important manufacturing industry in Canada and the source of the greatest single item in our exports next to wheat.

Subsection 1.—Woods Operations.

Differences throughout Canada in forest conditions give rise to differences in logging methods. Generally speaking, throughout Eastern Canada the climate is such that the cutting and hauling of logs can be carried on most economically during the fall and winter months. The trees are felled and the logs hauled to the nearest stream or lake, where they are piled on the ice or sloping banks. The presence of connected systems of lakes and streams makes it possible in most cases to float the logs from the forest to the mill at a minimum cost during the annual spring freshets. The logging industry east of the Rocky mountains is therefore almost entirely seasonal. In many cases lumbermen co-operate in river-driving operations, and improvement companies, financed by the logging operators, build river improvements to facilitate the passage of the floating logs, the logs being finally sorted and delivered to their respective owners. In British Columbia the scarcity of drivable streams and the greater average size of the logs give rise to entirely different logging methods. Logs are assembled by different cable systems operated by donkey engines and are transported to the mills or to water chiefly by logging railways and in some cases by motor trucks. These operations are more or less independent of frost, snow or freshet, and are carried on in most cases throughout the entire year.

In Eastern Canada logging operations are usually carried on by the mill owners or licensees of timbered lands, often through the medium of contractors, sub-contractors and jobbers. In the better settled parts of the country a considerable quantity of lumber is sawn by custom sawmills or small mills purchasing logs from the farmers. Unmanufactured pulpwood, poles, ties and other forest products have a market value, but saw-logs, being as a rule the property of the mill-owner, are not generally marketed as such in Eastern Canada. In British Columbia logging is carried on more frequently as a separate enterprise by limit-holders, who cut and sell logs on the market. In many cases mill operators are not limit-holders, but buy their entire supply of raw material from logging concerns.

In connection with operations in the woods it should be borne in mind that the forests not only provide the raw material for the sawmills, pulp-mills, wood distillation, charcoal, excelsior and other plants, but that they also provide logs, pulpwood and bolts for export in the unmanufactured state and fuel, poles, railway ties, posts and fence rails, mining timber, piling and other primary products which are finished in the woods ready for use or exportation. There are also a number of minor forest products, such as maple sugar and syrup, balsam gum, resin, cascara, moss and tanbark, which all go to swell the total.

Table **2** gives the total value of the products of woods operations in Canada for the years 1924 to 1928 inclusive. The imports and exports of forest products in the fiscal years ended Mar. 31, 1927-30, are shown in Tables **12** and **13** of the chapter on External Trade.

2.—Value of the Products of Woods Operations, by Products, 1924-1928.[2]

Product.	1924.	1925.	1926.	1927.	1928.
	$	$	$	$	$
Logs and bolts sawn	83,141,692	71,854,926	70,982,675	69,215,284	71,824,195
Pulpwood used	44,241,582	48,012,602	54,033,273	54,582,190	59,578,417
Firewood	39,336,771	39,515,657	40,032,804	40,582,774	41,164,270
Pulpwood exported	13,536,058	14,168,935	14,067,030	15,702,705	15,269,660
Hewn railway ties[1]	14,251,450	14,491,557	6,792,087	6,242,865	5,871,724
Logs exported	4,855,298	4,778,108	4,809,257	5,054,783	4,607,286
Square timber exported	3,317,225	2,643,543	2,643,543	2,865,906	3,772,137
Telegraph and telephone poles	3,621,415	3,802,036	3,828,193	3,948,723	4,934,371
Round mining timber	755,243	727,467	912,632	965,185	998,146
Fence posts	1,414,363	1,418,961	1,318,291	1,281,633	1,506,050
Wood for distillation	562,525	463,616	462,818	482,277	476,726
Fence rails	452,377	454,910	440,097	431,057	463,469
Miscellaneous exports	2,281,013	2,674,693	2,493,365	2,072,619	961,685
Miscellaneous products	1,379,698	4,269,550	1,620,263	1,511,749	1,522,663
Totals	**213,146,710**	**209,276,561**	**204,436,328**	**204,939,750**	**212,950,799**

[1] The figures for 1924 and 1925 include sawn ties, which are included under "logs and bolts sawn" in the 1926 to 1928 estimates. [2] The value of woods operations for 1929, which has just been made available at the time of going to press, is $219,570,129.

It has been estimated that operations in the woods in Canada in 1928 involved the investment of $188,000,000 in logging equipment, gave employment for a part of the year to 103,000 men and distributed over $80,000,000 in wages and salaries. In estimating the annual drain on our forest resources, certain converting factors have been used. Each of these factors represents in cubic feet the quantity of standing timber that must be cut in the forest to produce one unit of the material in question, based on the total cubic contents of the tree. By the use of these factors it has been estimated that the total drain on our forest resources in 1928 due to consumption for use amounted to 2,988,038,430 cubic feet. To this must be added the volume of material destroyed by fire, insects and fungi, which would bring the total depletion to an average of more than 4,000,000,000 cubic feet per annum. Table **3** gives the reported or estimated production of forest products, by kinds, together with the respective converting factors, the equivalent in standing timber and the estimated value in each case for 1928. Table **4** shows the extent of the drain on our forest resources in 1927 and 1928, by provinces.

3.—Products of Woods Operations, in Canada, by Chief Products, 1928.

Product.		Quantity Reported or Estimated.	Converting Factor.	Equivalent Volume in Standing Timber.	Total Value.
				cubic feet.	$
Logs and bolts sawn[1]	M ft. b.m.	4,722,845	219	1,034,303,055	71,824,195
Pulpwood used	cords	4,796,320	117	561,169,440	59,578,417
Firewood	"	9,541,267	95	906,420,365	41,164,270
Pulpwood exported	"	1,532,266	117	179,275,122	15,269,660
Hewn railway ties	number	8,253,575	12	99,042,900	5,871,724
Logs exported	M ft. b.m.	330,376	219	72,352,344	4,607,286
Square timber exported	"	177,579	219	38,889,801	3,772,137
Telegraph and telephone poles	number	1,130,651	13	14,698,463	4,934,371
Round mining timber	cu. ft.	5,634,590	1·3	7,324,967	998,146
Fence posts	number	15,690,978	2	31,381,956	1,506,050
Wood for distillation	cords	52,559	123	6,464,757	476,726
Fence rails	number	5,421,327	2	10,842,654	463,469
Miscellaneous exports	cords	96,458	117	24,217,479	961,685
Miscellaneous products	"	122,580	117	1,655,127	1,522,663
Totals		–	–	**2,988,038,430**	**212,950,799**

[1] Includes sawn ties.

4.—Volume of Timber Cut in Canada and Value of Products of Woods Operations by Provinces, 1927 and 1928.

Province.	Equivalent Volumes in Standing Timber.		Total Values.	
	1927.	1928.	1927.	1928.
	cubic feet.	cubic feet.	$	$
P.E.I.	16,103,043	16,158,953	738,732	729,746
Nova Scotia	120,818,695	117,933,752	8,671,472	8,169,748
New Brunswick	201,668,345	185,281,100	17,895,026	15,413,390
Quebec	856,232,833	876,900,762	65,707,873	67,991,437
Ontario	698,278,537	771,331,245	53,980,399	58,774,971
Manitoba	98,880,108	71,992,205	5,178,948	3,899,711
Saskatchewan	55,516,338	62,811,186	2,385,876	2,877,720
Alberta	83,448,615	90,639,513	3,960,466	4,494,145
British Columbia	734,356,283	794,989,714	46,420,958	50,599,931
Totals	**2,865,302,797**	**2,988,038,430**	**204,939,750**	**212,950,799**

The following statement summarizes the quantities and values, in the calendar year 1928, of the main products of the woods which are sold without further manufacture and of the two principal industries utilizing the forest resources, and shows the value of the forests as a source of wealth in Canada.

It is estimated that in the further manufacture of wood and paper into such products as sash, doors, furniture, caskets and paper goods, at least $75,000,000 is added to the value of these products.

Item.		Quantity.	Value of Product.	Number of Persons Employed.
Lumber Industry—			$	
Lumber	M ft. b.m.	4,337,253	103,590,035	–
Lath	M pcs.	1,138,417	4,802,616	–
Shingles	"	2,865,994	10,321,341	–
Totals		–	118,713,992	44,862
Pulp and Paper Industry—				
Paper manufactured	tons	2,849,199	184,462,356	–
Pulp exported	"	863,801	45,614,823	–
Totals		–	230,077,179	33,614
Woods Operations—				
Logs and timber exported	M ft. b.m.	507,955	8,379,423	–
Pulpwood exported	cords	1,532,266	15,269,660	–
Poles	pcs.	1,130,651	4,934,371	–
Mining timber	cu. ft.	5,634,590	998,146	–
Posts	pcs.	15,690,978	1,506,050	–
Fence rails	"	5,421,327	463,469	–
Railway ties	"	8,253,575	5,871,724	–
Fuelwood	cords	9,541,267	41,164,270	–
Distilled wood	"	52,559	476,726	–
Miscellaneous	"	219,038	2,484,348	–
Totals		–	81,548,187	103,000
Grand Totals		–	430,339,358	181,476

Subsection 2.—The Pulp and Paper Industry.

The manufacture of pulp and paper is a comparatively recent development in Canadian industry. Paper was first manufactured in Canada about a hundred years ago, but prior to 1860 no wood-pulp was used or produced. Rags, straw, esparto grass, cotton waste and other substances were the raw materials used. The first paper-mill was established at St. Andrews in Quebec (then Lower Canada) in 1803 by a party of Americans who obtained concessions from the seigneurs. Upper Canada's first mill, which is still in operation, was built in 1813 at Crook's Hollow (now Greensville) near Hamilton, and the Maritime Provinces entered the industry in 1819 with a mill at Bedford Basin near Halifax.

In 1866, Alexander Buntin installed at Valleyfield, Quebec, what is claimed as the first wood grinder in America and began the manufacture of wood-pulp by the mechanical process. During the same year Angus Logan and Co. built the first chemical wood-pulp mill in Canada at Windsor Mills in Quebec. During the next decade the use of wood-pulp in paper-making was extensively developed, and in 1887 Charles Riordon installed the first sulphite mill in Canada at Merritton in the Niagara Peninsula; by the beginning of the century the output of the industry had exceeded $8,000,000. In 1907 the Brompton Pulp and Paper Co. at East Angus in Quebec, built the first mill in America to manufacture chemical pulp by the sulphate or kraft process.

The gross output of the industry increased rapidly and steadily until the boom years following the Great War, when it jumped to a peak of over $232,000,000 in 1920. This was followed by a drop in 1921, but since that year there has been a steady recovery, resulting in a total for 1929 of $243,970,761, which exceeds the abnormally high total value reported in 1920.

There are to-day three classes of mills in the industry. These in 1929 numbered 34 mills making pulp only, 46 combined pulp and paper-mills, and 28 mills making paper only. The present tendency is toward the building of the larger combined mills of the type known as "self-contained newsprint mills", and also toward the merging of individual companies into a comparatively small number of large groups.

The rapid development of this industry is due chiefly to the existence in Canada of abundant water powers adjacent to extensive forest resources of pulpwood species. Summary statistics for the combined pulp and paper industry are given on p. 298.

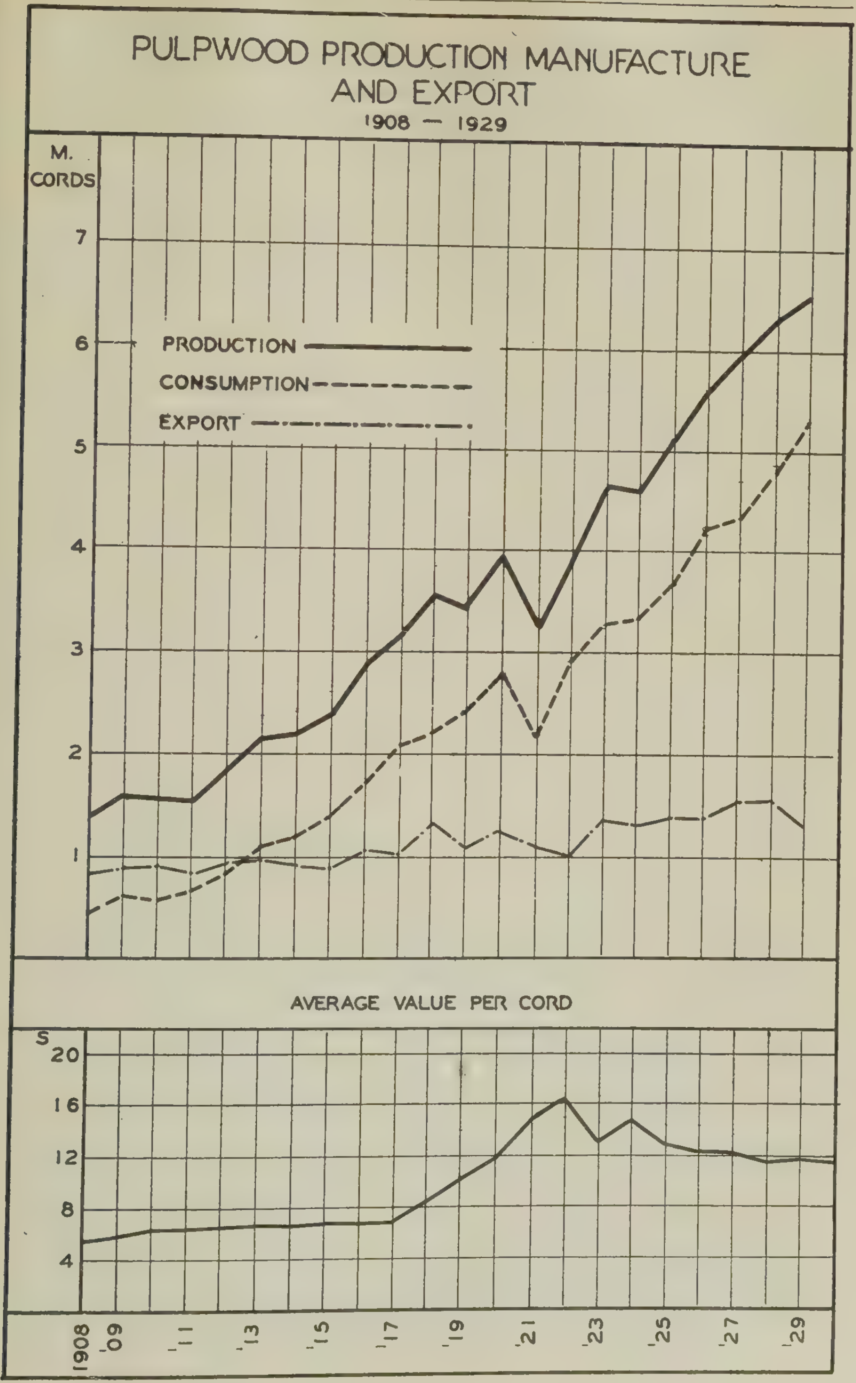
The industry in Canada includes three forms of industrial activity, the operations in the woods, with pulpwood as a product, the manufacture of pulp and the manufacture of paper. These three stages cannot be treated as entirely distinct nor can they be separated from the different stages of the lumber industry. Some of the important pulp companies operate sawmills to utilize the larger timber on their limits to the best advantage, and many lumber manufacturers divert a proportion of their spruce and balsam logs to pulp-mills. So far as operations in the woods are concerned, it is often impossible to state whether the timber being cut will eventually be made into lumber or into pulpwood.

On account of legislation already referred to, pulpwood cut on Crown lands must in every province be manufactured into pulp in Canadian pulp-mills. The pulp-wood which is exported to the United States is cut from private lands. Table **5** shows the annual production of this commodity from 1908 to 1929, together with the quantities used by Canadian pulp-mills and the quantities exported.

5.—Production, Consumption and Export of Pulpwood, calendar years 1908-1929.

Year.	Total Production of Pulpwood.			Used in Canadian Pulp-mills.[1]		Exported Unmanufactured.[2]	
	Quantity.	Total Value.	Average Value per cord.	Quantity.	Per cent of Total Production.	Quantity.	Per cent of Total Production.
	cords.	$	$	cords.	p.c.	cords.	p.c.
1908	1,325,085	7,732,055	5·84	482,777	36·4	842,308	63·6
1909	1,557,753	9,316,610	5·98	622,129	39·9	935,624	60·1
1910	1,541,628	9,795,196	6·35	598,487	38·8	943,141	61·2
1911	1,520,227	9,678,616	6·37	672,288	44·2	847,939	55·8
1912	1,846,910	11,911,415	6·46	866,042	46·8	980,868	53·2
1913	2,144,064	14,313,939	6·67	1,109,034	51·7	1,035,030	48·3
1914	2,196,884	14,770,358	6·72	1,224,376	55·7	972,508	44·3
1915	2,355,550	15,580,330	6·61	1,405,836	59·7	949,714	40·3
1916	2,833,119	19,971,127	7·05	1,764,912	62·3	1,068,207	37·7
1917	3,122,179	26,739,905	8·56	2,104,334	67·4	1,017,845	32·6
1918	3,560,280	37,886,259	10·64	2,210,744	62·1	1,349,536	37·9
1919	3,498,981	41,941,267	11·99	2,428,706	69·4	1,070,275	30·6
1920	4,024,826	61,183,060	15·22	2,777,422	69·0	1,247,404	31·0
1921	3,273,131	52,900,872	16·16	2,180,578	66·6	1,092,553	33·4
1922	3,923,940	50,735,361	12·93	2,912,608	74·2	1,011,332	25·8
1923	4,654,663	57,119,596	12·27	3,270,433	70·3	1,384,230	29·7
1924	4,647,201	57,777,640	12·43	3,316,951	71·4	1,330,250	28·6
1925	5,092,461	62,181,537	12·23	3,668,959	72·0	1,423,502	28·0
1926	5,621,305	68,100,303	12·14	4,229,567	75·2	1,391,738	24·8
1927	5,929,456	70,284,895	11·85	4,387,687	74·0	1,541,769	26·0
1928	6,295,912	74,587,833	11·85	4,796,320	75·7	1,532,266	24·3
1929	6,536,335	76,120,063	11·65	5,278,422	80·2	1,294,995	19·8

[1] Including 32,674 cords imported in 1928 and 37,082 cords imported in 1929. [2] Exports of pulpwood in the calendar year 1930 were 1,330,466 cords.


PULPWOOD PRODUCTION MANUFACTURE AND EXPORT
1908 — 1929
M. CORDS
7
6
5
4
3
2
1
PRODUCTION
CONSUMPTION
EXPORT
AVERAGE VALUE PER CORD
$
20
16
12
8
4
1908
'09
'11
'13
'15
'17
'19
'21
'23
'25
'27
'29

The exportation of raw pulpwood, as shown in the preceding table, has increased only 32 p.c. since 1912, while the quantity consumed in Canadian pulp-mills has increased more than six-fold during the same period. In 1908, almost two-thirds of the pulpwood cut in Canada was exported in the raw or unmanufactured form. In 1929, with an increase of over 493 p.c. in total production, the proportion exported has fallen to less than one-fifth.

The manufacture of pulp forms the second stage in this industry. This is carried on by mills producing pulp alone and also by paper manufacturers operating pulp-mills in conjunction with paper-mills for the purpose of providing their own raw material. Such mills usually manufacture a surplus of pulp for sale in Canada or for export.

The supply of rags for paper-making is distinctly limited and the material too expensive for the manufacture of cheap paper. Early paper-makers experimented with fibres from the stems, leaves and other parts of numerous annual plants, but the small proportion of paper-making material recoverable from such sources led to experiments in the use of wood. Different species were tried, and finally spruce and balsam fir were found to be the most suitable for the production of all but the best classes of paper.

The preliminary preparation of pulpwood is frequently carried on at the pulp-mill, but there are in Canada a number of "cutting-up" and "rossing" mills operating on an independent basis, chiefly for the purpose of saving freight on material cut at a distance from the mill or on material intended for exportation. Pulp wood is measured by the cord (4′ by 4′ by 8′ of piled material), which is approximately equivalent to 500 feet board measure or to 90 cubic feet of solid wood.

There are in Canada four methods of preparing wood-pulp, one of which is mechanical and three chemical. In the mechanical method, green coniferous woods are preferred; spruce and balsam fir form about 98·2 p.c. of the total, with hemlock and jack pine. The barked and cleaned wood is held by hydraulic pressure against the surface of a revolving grindstone, the sticks lying with their length parallel to the axis of the stone. The stone is constantly washed by water, which carries away the pulp in suspension. Mechanically prepared pulp or "groundwood" is used only for the cheaper grades of paper and board which are required only for a comparatively short time. It contains all the wood substance, a large proportion of which is not durable. Mixed with chemical pulp, it is used for news, wall, cheap book, manila, tissue, wrapping, bag, and building papers, and for box boards, container boards and wall boards.

There are three methods of producing chemical fibre in use in Canada—the sulphite, sulphate (or kraft) and the soda processes, so-called because of the chemicals used in each case to dissolve out the non-fibrous or non-cellulose components of wood substance. Cellulose, which forms about 50 p.c. of wood substance, is the ideal paper-making material. It is a singularly inert substance, largely unaffected by ordinary chemical agents, atmospheric conditions, bacteria and fungi. High grade paper, being almost pure cellulose, will remain in perfect condition for centuries. Not only do the chemicals used separate out the cellulose, but they remove the fats and resins so troublesome in paper-making, and break down the substance which holds the cellulose fibres together, so that they can be later felted together into a strong sheet of paper.

The previously barked and cleaned pulpwood is chipped in a machine which reduces the wood to particles about an inch long and a quarter of an inch thick, or smaller. These chips are screened, crushed and fed into digesters, where they are cooked in the presence of the various chemicals referred to. The cooked chips are then "blown" into pits below the digesters and washed in preparation for screening.

The sulphite process, which is the most important in use in Canada, depends on the action of a bisulphite liquor (a comparatively weak acid solution of calcium and magnesium bisulphite) on the non-cellulose wood component.

The woods used in this process in Canada are all coniferous. Spruce and balsam form 92·5 p.c., and hemlock 6·5 p.c.

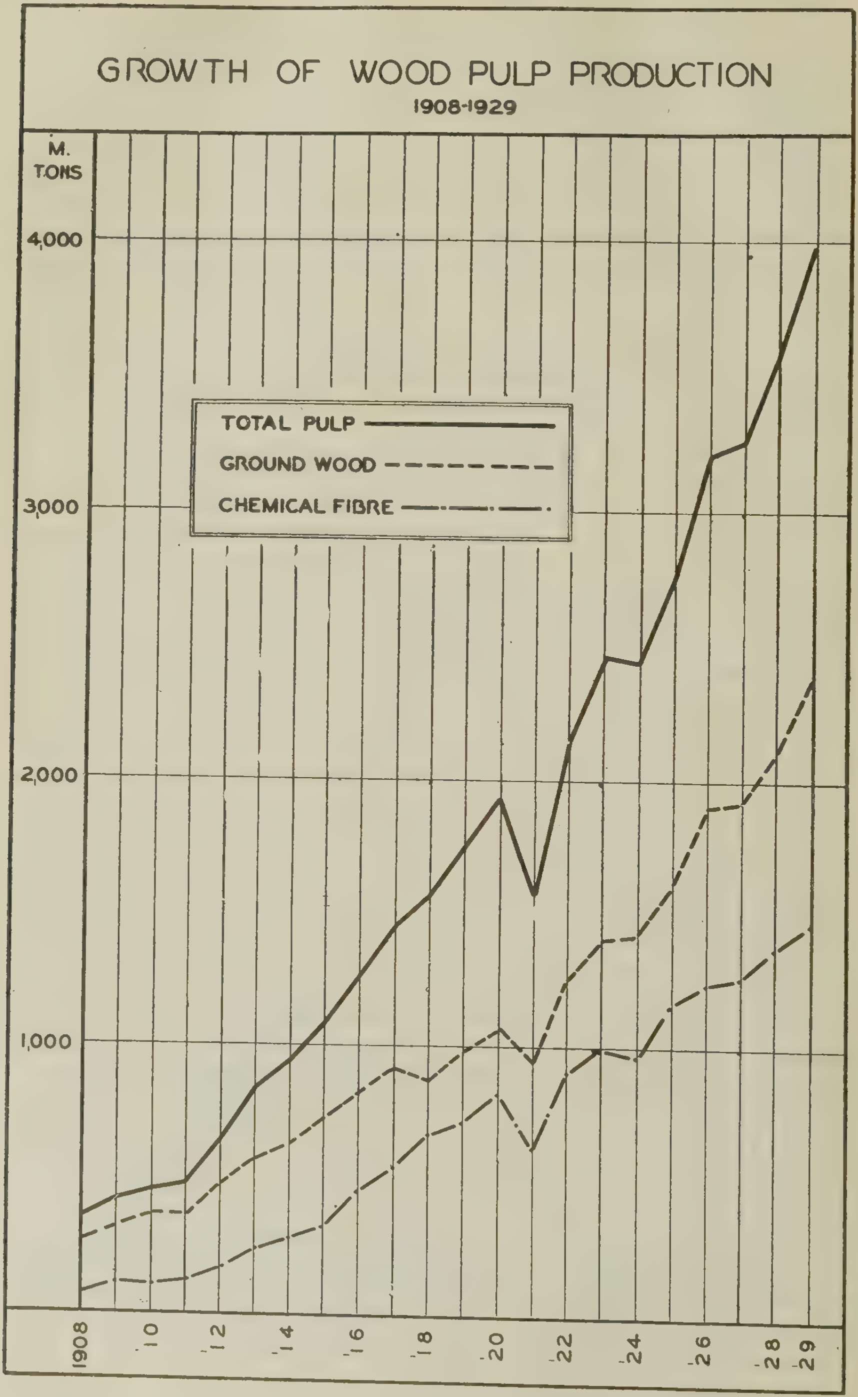
Sulphite fibre is used in the manufacture of most of the newsprint paper, in which it forms about 20 p.c. of the pulp used, adding strength to the remaining 80 p.c. of groundwood pulp. It is used for the better classes of white paper and boards, either pure or in mixture with other fibres.

The soda process is the oldest chemical process, and depends on the action of an alkaline solvent, caustic soda, on the non-fibrous components.

The resultant fibre is used in the manufacture of the best class of book, magazine and writing papers, as a filler mixed with stronger pulp. The result is a paper which lacks strength but can be readily finished to a good surface.

The manufacture of sulphate or kraft pulp is a comparatively recent modification of the soda process. It was first used in America by the Brompton Pulp and Paper Co., at East Angus, Quebec, in 1907. The process was first introduced with the intention of reducing the manufacturing cost of soda pulp by substituting salt cake (sodium sulphate) for the more expensive soda ash (sodium carbonate). Subsequent developments showed that, by an adaptation of this process, the superior strength of coniferous wood fibre could be taken advantage of, and at the present time the woods used are almost exclusively coniferous. Spruce and balsam head the list with about 67 p.c. of the total, followed by jack pine with about 27 p.c., and other conifers in smaller proportions. The fibres so obtained are long, flexible and very strong, and are used in the manufacture of so-called kraft papers used for wrapping, bags, etc. Sulphate pulp is also used in place of sulphite in making newsprint.

Pulp Production.—Table 6 shows the total production of pulp in Canada from 1908 to 1929 inclusive, together with the production of groundwood pulp and the production of fibre by the three chemical processes described. Statistics of values are not available from 1908 to 1916.


GROWTH OF WOOD PULP PRODUCTION
1908-1929
M. TONS
4,000
3,000
2,000
1,000
TOTAL PULP
GROUND WOOD
CHEMICAL FIBRE
1908
10
12
14
16
18
20
22
24
26
28
29

6.—Pulp Production, Mechanical and Chemical, calendar years 1908-1929.

Year.	Total Production.[1]		Mechanical Pulp.		Chemical Fibre.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	tons.	$	tons.	$	tons.	$
1908	363,079	–	278,570	–	84,509	–
1909	445,408	–	325,609	–	119,799	–
1910	474,604	–	370,195	–	104,409	–
1911	496,833	–	362,321	–	134,512	–
1912	682,632	–	499,226	–	183,406	–
1913	854,624	–	600,216	–	254,408	–
1914	934,700	–	644,924	–	289,776	–
1915	1,074,805	–	743,776	–	331,029	–
1916	1,296,084	–	827,258	–	468,826	–
1917	1,464,308	65,515,335	923,731	25,918,811	540,423	38,374,191
1918	1,557,193	64,356,173	879,510	19,112,727	677,683	45,243,446
1919	1,716,089	73,320,278	990,902	23,316,828	725,187	50,003,450
1920	1,960,102	141,552,862	1,090,114	49,890,337	848,528	90,053,999
1921	1,549,082	78,338,278	931,560	32,313,848	612,467	45,929,513
1922	2,150,251	84,947,598	1,241,185	31,079,429	897,533	53,615,692
1923	2,475,904	99,073,203	1,419,547	37,587,379	1,012,092	60,674,518
1924	2,465,011	90,323,972	1,427,782	36,165,901	986,242	53,313,823
1925	2,772,507	100,216,383	1,621,917	39,130,117	1,084,992	59,969,673
1926	3,229,791	115,154,199	1,901,268	44,800,257	1,125,178	69,220,427
1927	3,278,978	114,442,550	1,922,124	44,174,811	1,278,572	69,169,002
1928	3,608,045	121,184,214	2,127,699	47,549,324	1,392,755	72,500,188
1929	4,021,229	129,033,154	2,420,774	51,617,360	1,501,273	76,198,051

[1] These totals include some unspecified pulp and screenings.

The steady growth of this industry up to 1920, when 1,960,102 tons of pulp were produced, will be seen from the above figures. There was a drop in production in 1921, but production in 1922 more than overtook the previous year's drop. Since then, with the exception of 1924, each year has shown consistent growth in the annual production, 1929 creating a record for the industry with a production of 4,021,229 tons.

During 1929 there were 34 mills manufacturing pulp only and 46 combined pulp and paper-mills. These 80 establishments turned out 4,021,229 tons of pulp, valued at $129,033,154, as compared with 3,608,045 tons of pulp, valued at $121,184,214, in 1928. Of the 1929 total for pulp 2,992,268 tons, valued at $78,255,415, were made in the combined pulp and paper-mills for their own use in manufacturing paper. Of the remainder, 165,364 tons, valued at $8,058,363, were made for sale in Canada, while 863,597 tons, valued at $42,719,376, were made for export. As in the case of pulpwood, a part of the product at this stage of the industry provides raw material for the later stages, while the remainder has a definite market value as such.

About 60 p.c. of the production in 1929 was groundwood pulp and about 23 p.c. unbleached sulphite fibre, these two being the principal components of newsprint paper. Bleached sulphite made up 8 p.c. and sulphate fibre 6 p.c. The remainder was screenings (for which a considerable market has developed in recent years in connection with the manufacture of fibre boards), together with soda fibre and other wood-pulp. Table 7 shows the production of pulp by provinces in the last five years.

7.—Production of Wood-Pulp in Canada, by the Chief Producing Provinces, 1925-1929.

Year.	Quebec.		Ontario.		Canada.[1]	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	tons.	$	tons.	$	tons.	$
1925	1,370,303	50,490,231	976,717	33,559,038	2,772,507	100,216,383
1926	1,672,339	59,218,576	1,095,987	38,008,752	3,229,791	115,154,199
1927	1,749,965	60,884,169	1,007,118	35,034,468	3,278,978	114,442,550
1928	2,018,566	67,467,328	1,050,335	35,708,079	3,608,045	121,184,214
1929	2,174,805	69,286,498	1,255,010	39,963,767	4,021,229	129,033,154

[1] Includes other provinces.

Quebec produced over 54 p.c. of the pulp in 1929, with 31 p.c. from Ontario, 8 p.c. from British Columbia and 7 p.c. from the Maritime Provinces and Manitoba.

Pulp Exportation.—The following table gives the quantities of pulp exported by the principal pulp-producing countries of the world in 1929. Figures for 1913, the year immediately preceding the war, and for 1928 are shown for comparison. Figures of the exports of wood-pulp from Canada in the fiscal years ended Mar. 31, 1927-30, will be found in Table **12** of the chapter on External Trade. In the calendar year 1930 the exports of wood-pulp from Canada were 15,204,406 cwt.

8.—Exports of Wood-Pulp from Principal Wood-Pulp Producing Countries of the World, calendar years 1913, 1928 and 1929.

Country.	Year ended Dec. 31—				
	1913.	1928.	1929.		
	Total Wood-Pulp.	Total Wood-Pulp.	Total Wood-Pulp.	Chemical Pulp.	Mechanical Pulp.
	lb.	lb.	lb.	lb.	lb.
Sweden	2,224,626,000	3,453,265,000	4,609,158,000	3,265,924,000	1,343,234,000
Norway	1,558,049,000	1,751,909,000	1,940,331,000	617,728,000	1,322,603,000
Finland	265,348,000	1,568,489,000	1,717,397,000	578,135,000	1,139,262,000
Canada	596,339,000	1,727,602,000	1,671,420,000	1,228,483,000	442,937,000
Germany	412,083,000	520,562,000	592,203,000	585,083,000	7,120,000
Austria	225,428,000	265,435,000	248,007,000	205,396,000	42,611,000
Czechoslovakia	47,871,000	206,326,000	201,749,000	201,670,000	79,000
United States	39,552,000	66,967,000	108,136,000	92,098,000	16,038,000
Switzerland	14,655,000	30,099,000	22,962,000	19,147,000	3,815,000
Poland	–	21,338,000	18,853,000	18,357,000	496,000
Newfoundland	115,331,000	49,000	146,000	–	146,000
Totals, Principal Countries	–	**9,612,041,000**	**11,130,362,000**	**6,812,021,000**	**4,318,341,000**

The total exports of the eleven principal pulp-exporting countries of the world in 1929, were 11,130,362,000 lb. or 5,560,316 short tons, of which Canada contributed about 15 p.c. While the exports of Sweden, the leading exporter, are only about double those of 1913, Canada's exports during the same period have almost tripled in spite of the increasing proportion of our total pulp production which is being further manufactured into paper in Canadian mills.

Paper Production.—The paper-making stage of the industry involves the consumption of wood-pulp and other paper stock in the manufacture of paper and other pulp products. Accurate annual statistics for this part of the industry are only available for the years 1917 to 1929 inclusive. These are given in Table **9.**

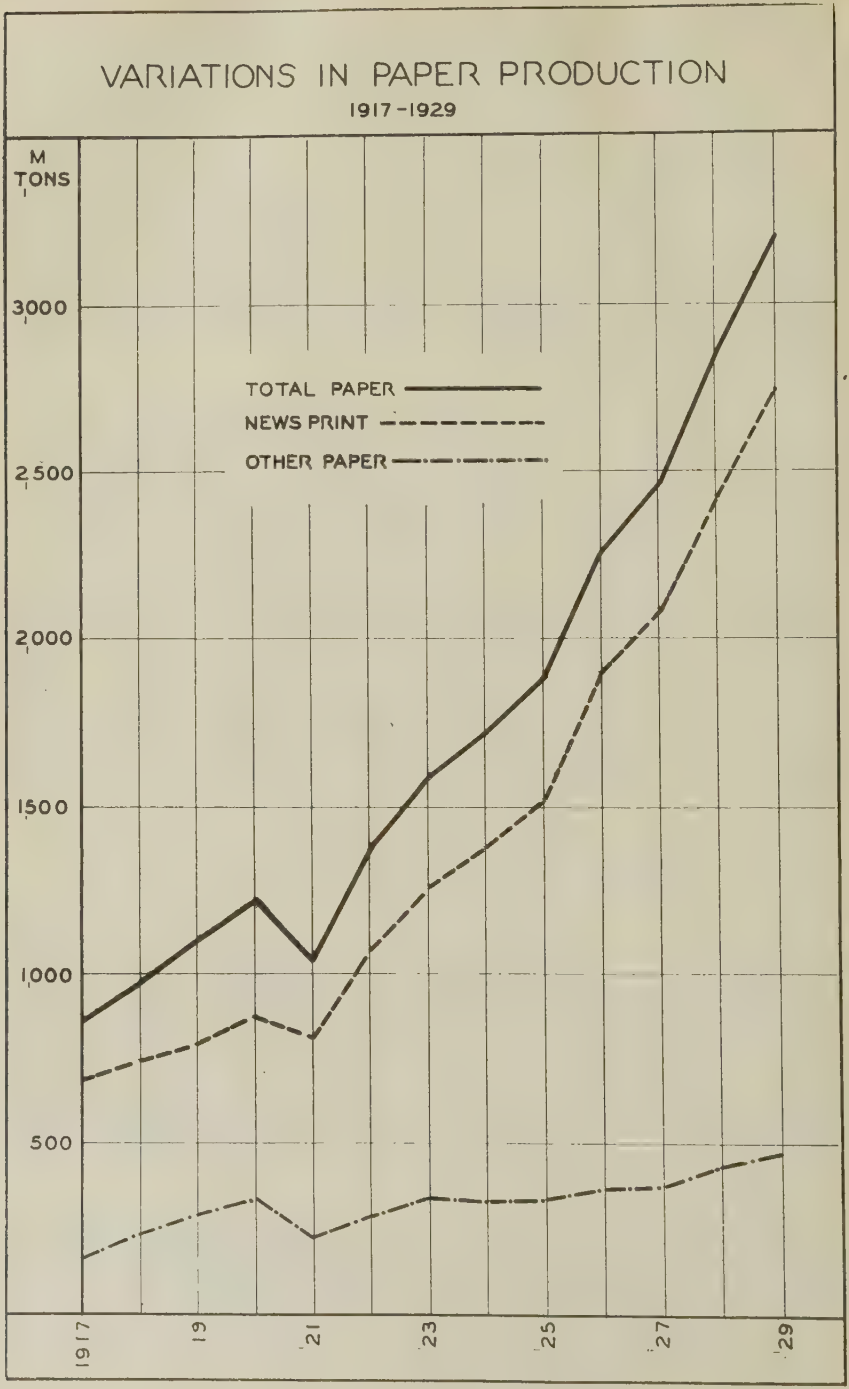
During 1929 there were 46 combined pulp and paper-mills and 28 mills making paper only. These 74 establishments produced 3,197,149 tons of paper, together with certain miscellaneous pulp products, with a total value of $193,193,022, as compared to 2,849,199 tons, valued at $184,462,356, in 1928. Newsprint paper forms about 85 p.c. of the annual paper production in Canada. In 1929, the production of newsprint paper was 2,725,331 tons, valued at $150,800,157, making Canada the largest producer of newsprint in the world. The estimate for 1930 is 2,499,631 tons (Preliminary figure).

9.—Summary of Paper Production in Canada, calendar years 1917-1929.

Year.	Newsprint Paper.		Book and Writing Paper.		Wrapping Paper.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	tons.	$	tons.	$	tons.	$
1917	689,847	38,868,084	48,141	9,310,138	50,360	646,750
1918	734,783	46,230,814	48,150	10,732,807	61,180	7,341,372
1919	794,567	54,427,879	58,228	12,571,000	59,697	7,979,418
1920	875,696	80,865,271	73,196	21,868,807	77,292	12,161,303
1921	805,114	78,784,598	53,530	12,550,520	52,898	6,634,211
1922	1,081,364	75,971,327	64,808	12,560,504	81,793	8,219,841
1923	1,251,541	93,213,340	76,789	13,582,135	84,912	7,666,174
1924	1,388,081	100,276,903	67,934	12,605,623	89,441	8,027,918
1925	1,536,523	106,268,641	74,724	13,145,407	91,417	8,130,102
1926	1,889,208	121,064,946	80,403	14,765,725	97,057	8,552,400
1927	2,082,830	132,286,729	75,072	12,916,469	102,707	9,607,828
1928	2,414,393	144,146,632	79,138	14,008,406	111,667	10,424,217
1929	2,725,331	150,800,157	73,502	13,636,562	91,374	9,725,876

Year.	Boards.		Other Paper Products.		Totals, Paper.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	tons.	$	tons.	$	tons.	$
1917	54,080	3,543,164	11,261	1,382,205	853,689	58,750,341
1918	87,749	5,551,409	35,862	3,267,142	967,724	73,123,544
1919	137,678	8,892,046	40,065	3,882,500	1,090,235	87,752,843
1920	158,041	12,904,662	30,726	4,222,724	1,214,951	132,022,767
1921	89,120	6,225,948	18,285	2,358,658	1,018,947	106,553,935
1922	113,200	7,000,081	25,650	2,508,325	1,366,815	106,260,078
1923	130,582	8,480,233	45,479	5,042,488	1,589,303	127,984,370
1924	135,252	8,228,760	38,033	4,256,469	1,718,741	133,395,673
1925	144,646	8,378,621	37,395	4,757,406	1,884,705	140,680,177
1926	155,469	8,825,804	44,006	5,068,203	2,266,143	158,277,078
1927	161,497	8,985,788	46,585	4,433,926	2,468,691	168,445,548
1928	193,061	10,656,200	50,940	5,069,950	2,849,199	184,462,356
1929	250,061	13,539,645	56,881	5,287,012	3,197,149	193,193,022

Newsprint made up about 85 p.c. of the total paper production in 1929, with 8 p.c. of paper boards, 3 p.c. of wrapping paper, a little over 2 p.c. of book and writing paper and nearly 2 p.c. of other miscellaneous papers.


VARIATIONS IN PAPER PRODUCTION
1917-1929
M TONS
3000
2500
2000
1500
1000
500
TOTAL PAPER
NEWS PRINT
OTHER PAPER
1917
19
'21
'23
'25
'27
'29

10.—The Production of Paper in Canada, by Provinces, 1929.

Province.	Quantity.	Value.
	tons.	$
Quebec	1,780,720	107,504,475
Ontario	1,080,028	66,822,230
British Columbia	229,724	13,226,274
New Brunswick and Manitoba	106,677	5,640,043
Totals	**3,197,149**	**193,193,022**

Quebec produced 55·7 p.c. of the total quantity, Ontario 33·8 p.c., British Columbia 7·2 p.c., and New Brunswick and Manitoba 3·3 p.c.

World Production of Newsprint.—The world production of newsprint in 1929 has been estimated at 7,304,000 short tons, of which North America supplied over 60 p.c. and Canada alone over 37 p.c. The estimated production in 22 leading countries was as follows:—

11.—Estimated Production of Newsprint Paper in 22 Leading Countries, 1929.

Country.	Production.	Country.	Production.	Country.	Production.
	tons.		tons.		tons.
Canada	2,725,000	France	210,000	Spain	30,000
United States	1,392,000	Norway	189,000	Russia	30,000
Great Britain	636,000	Netherlands	77,000	Estonia	27,000
Germany	623,000	Austria	62,000	Poland	23,000
Japan	286,000	Belgium	57,000	Mexico	19,000
Sweden	275,000	Italy	52,000	Denmark	11,000
Newfoundland	256,000	Switzerland	48,000	Not specified	14,000
Finland	215,000	Czechoslovakia	47,000		
				Total	**7,304,000**

Exportation of Newsprint Paper.—In the fiscal year 1908, exports of printing paper were for the first time separately recorded, and valued at $2,833,535. In the fiscal year 1913, when quantities were first shown, Canada exported 146,791 short tons valued at $5,692,126. In 1929 our exports of newsprint amounted to 2,515,495 tons valued at $148,865,648, and ranked second only to wheat among the exports of the Dominion. For exports of newsprint and other paper in the fiscal years ended Mar. 31, 1927-30, see Table **12** of the chapter on External Trade.

As early as 1913 Canada led the world in the exportation of newsprint, and since that date her exports have increased almost ten-fold in quantity, while those of Germany, her nearest competitor, have increased about five-fold. The exports of the United States have decreased in quantity during the period and those of Great Britain have remained about the same. The following table shows the exportation of newsprint from the 13 principal exporting countries in 1913, 1927, 1928 and 1929, amounting in the aggregate in 1929 to 7,811.572,000 lb. or 3,905,786 short tons, of which Canada contributed over 64 p.c. or more than all the other 12 countries combined. Canada's exports of newsprint paper undoubtedly exceed those of the rest of the world, being estimated for the calendar year 1930 at the figure of 4,662,022,000 lb.

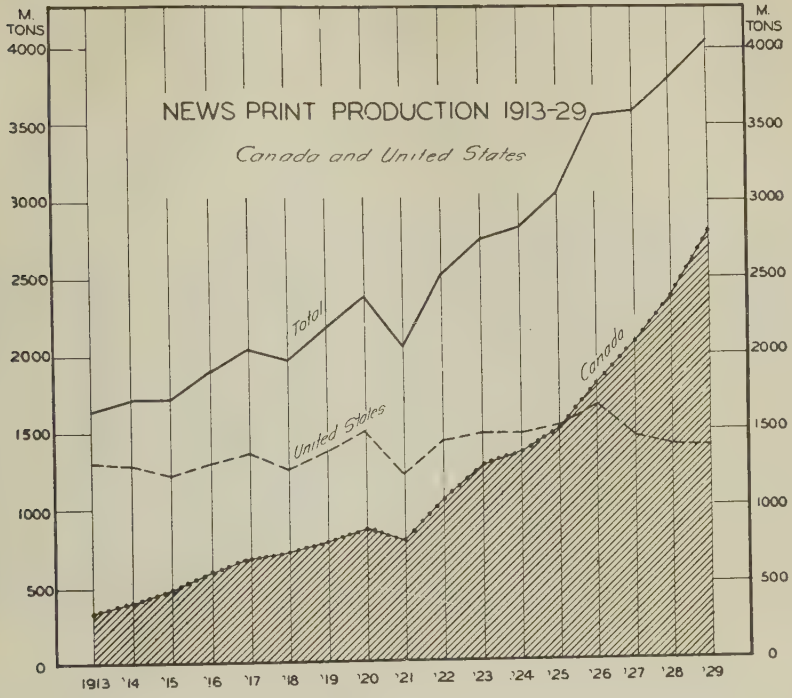
12.—Exports of Newsprint Paper from Principal Paper-producing Countries of the World, 1913, 1927, 1928 and 1929.

NOTE.—Countries arranged in order of importance of export, 1929.

Rank in 1929.	Country.	Year ended Dec. 31—			
		1913.	1927.	1928.	1929.
		lb.	lb.	lb.	lb.
1	Canada	513,322,000	3,763,731,000	4,413,175,000	5,030,989,000
2	Germany	151,522,000	440,900,000	411,415,000	508,671,000
3	Newfoundland	99,510,000	383,515,000	414,292,000	487,847,000
4	Sweden	135,876,000	378,507,000	352,372,000	435,363,000
5	Finland	154,425,000	342,603,000	378,126,000	382,791,000
6	Norway	217,014,000	380,117,000	367,579,000	378,420,000
7	United Kingdom	210,305,000	196,294,000	188,703,000	215,345,000
8	Japan	6,540,000	63,822,000	110,368,000	115,315,000
9	Austria	29,711,000	112,590,000	116,528,000	108,001,000
10	Netherlands	–	73,325,000	66,947,000	64,039,000
11	United States	86,602,000	24,657,000	22,781,000	37,392,000
12	Czechoslovakia	–	38,859,000	30,629,000	26,210,000
13	Switzerland	24,000	22,027,000	23,560,000	21,189,000
	Totals, Principal Countries	–	**6,220,947,000**	**6,896,475,000**	**7,811,572,000**

Statistics of the Combined Pulp and Paper Industries.—While the manufacture of pulp and that of paper are properly two industries, the existence of combined pulp and paper-mills makes it impossible to separate many of their statistics. Considering the manufacturing part of the industry as a whole, there were altogether 108 mills in operation in 1929, as compared with 110 in 1928. The capital invested in 1929 amounted to $644,773,806, the employees numbered 33,584 and their salaries and wages amounted to $50,214,445. If we disregard the pulp made "for own use" in the combined pulp and paper-mills, the total value of the raw materials used in the industry as a whole amounted to $96,874,749 and the gross value of production to $243,970,761. The difference between these two or the net value of production represents the value added by manufacture and amounted in 1929 to $147,096,012. Pulp and paper is now the most important manufacturing industry in Canada, foremost in wage and salary distribution since 1922, when it exceeded that of the sawmills. It has been the leading industry in gross value of production since 1925, when it replaced the flour mills, and also first in net value of production since 1920, when it outstripped the sawmills in this respect. Only the manufacturing stages of the industry are considered in these comparisons, no allowance being made for the capital invested, men employed, wages paid nor primary products sold in connection with the woods operations which form such an important part of the industry as a whole but cannot be separated from woods operations carried on in connection with sawmills and other industries. If the $13,314,738 worth of exported pulpwood be taken into consideration, the gross total contribution of the pulp and paper industry toward a favourable trade balance for Canada in 1929 amounted to $195,541,990, representing the difference between exports and imports of pulpwood, pulp, paper and paper products.

The United States market absorbs annually all of Canada's pulpwood exports and over 84 p.c. of her pulp and paper shipments, and the remaining portion goes to the United Kingdom and other widely distributed overseas markets. Almost half of the paper consumed in the United States is either of Canadian manufacture or is made from wood or wood-pulp imported from Canada.



Subsection 3.—The Lumber Industry.[1]

The manufacture of lumber, lath, shingles and other products of the sawmill is the second most important industry in Canada depending on the forest for its raw materials. Annual statistics covering this and other forest industries were collected and published by the Forest Service of the Department of the Interior from 1908 to 1916. Since that date the work has been carried on by the Dominion Bureau of Statistics, in co-operation with the Forest Service.

The production of sawn lumber in Canada in 1920 reached a total of over four billion feet, board measure, the highest cut recorded since 1912. This was followed in 1921, however, by a period of depression which was general throughout all fields of industrial activity. The production of lumber in 1921 decreased by over a third and the average value by over $10 a thousand feet. Since that year there have been annual increases in cut for Canada as a whole except in 1927. The tendency toward a decrease in production in Eastern Canada has been more or less made up by the increased cut each year in British Columbia, which now produces over half the total. Table **13** gives the production of lumber, lath and shingles in each year from 1908 to 1929.

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[1] An article on "The History of the Canadian Lumber Trade", by A. R. M. Lower, M.A., appears at pp. 318-323 of the 1925 edition of the Canada Year Book.

13.—Lumber, Lath and Shingle Production in Canada, for the calendar years 1908-1929.

Year.	Lumber Cut.		Shingles Cut.		Lath Cut.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	M ft. b.m.	$	M	$	M	$
1908	3,347,126	54,338,036	1,499,396	3,101,996	671,562	1,487,125
1909	3,814,942	62,819,477	1,988,753	3,701,182	822,124	1,979,034
1910	4,451,652	70,609,233	1,976,640	3,557,211	851,953	1,943,544
1911	4,918,202	75,830,954	1,838,474	3,512,078	965,235	2,212,226
1912	4,389,723	69,475,784	1,578,343	3,175,319	899,016	2,064,622
1913	3,816,642	65,796,438	1,485,279	3,064,641	739,678	1,783,283
1914	3,946,254	60,363,369	1,843,554	3,688,746	625,010	1,585,484
1915	3,842,676	61,919,806	3,089,470	5,734,852	793,226	2,040,819
1916	3,490,550	58,365,349	2,897,562	5,962,933	665,588	1,743,940
1917	4,151,703	83,655,097	3,020,956	8,431,215	616,949	1,828,018
1918	3,886,631	103,700,620	2,662,521	8,184,448	438,100	1,369,616
1919	3,819,750	122,030,653	2,915,309	13,525,625	520,203	2,157,758
1920	4,298,804	168,171,987	2,855,706	14,695,159	762,031	5,248,879
1921	2,869,307	82,448,585	2,986,580	10,727,096	804,449	4,188,121
1922	3,138,598	84,554,172	2,506,956	10,397,080	1,031,420	5,660,328
1923	3,728,445	108,290,542	2,718,650	9,617,114	1,153,735	6,324,747
1924	3,878,942	104,444,622	3,129,501	10,406,293	1,165,819	5,975,253
1925	3,888,920	99,725,519	3,156,261	11,154,773	1,292,963	6,415,927
1926	4,185,140	101,071,260	3,299,397	10,521,723	1,378,366	6,527,060
1927	4,098,081	97,508,786	2,837,281	8,716,085	1,322,665	5,603,396
1928	4,337,253	103,590,035	2,865,994	10,321,341	1,138,417	4,802,616
1929	4,741,941	113,349,886	2,707,235	9,423,363	835,799	2,860,799

The total number of sawmills, tie, shingle, lath, veneer, stave, heading and hoop mills, and mills for cutting-up and barking or rossing of pulpwood operating in 1929 was 3,161, as compared with 2,967 in 1928. The capital invested in these mills in 1929 was $181,586,699, the employees numbered 46,466 and their wages and salaries amounted to $36,157,555. The logs, bolts and other raw materials of the industry were valued at $83,743,952 and the gross value of production was $146,989,564. The net production or the value added by manufacture in 1929 was $63,245,612.

The lumber industry in 1929 was the sixth most important manufacture in Canada in gross value of products, being exceeded by pulp and paper, slaughtering and meat packing, flour milling, the automobile industry and central electric stations. It ranked first in total number of employees, third in wage and salary distribution, third in value of capital invested, and fifth in net value of products.

The production of sawn lumber increased in quantity from 1928 to 1929 by 9·3 p.c. Lath production decreased by 26·6 p.c., and shingle production by 5·5 p.c. Other increases were reported in the production of sawn ties, pulpwood, fuel, staves, pickets, poles, box shooks, veneer, and heading, and decreases in spoolwood and miscellaneous products. The total gross value of production increased from $139,424,754 in 1928 to $146,989,564 in 1929, as shown in Table **14.**

14.—Production of Lumber and other Sawmill Products in Canada, by Provinces, 1929.

Province.	Lumber Production.		Other Sawmill Products.	Total all Products.
	Quantity.	Value.	Value.	Value.
	M ft. b.m.	$	$	$
Prince Edward Island	5,093	121,838	18,091	139,929
Nova Scotia	125,606	2,577,875	627,342	3,205,217
New Brunswick	363,114	9,294,941	2,869,663	12,164,604
Quebec	625,808	16,464,529	11,878,097	28,342,626
Ontario	913,325	28,180,429	4,562,917	32,743,346
Manitoba	78,591	1,972,715	122,898	2,095,613
Saskatchewan	35,245	799,809	8,679	808,488
Alberta	134,659	2,741,286	111,154	2,852,440
British Columbia	2,460,500	51,196,464	13,440,837	64,637,301
Totals	**4,741,941**	**113,349,886**	**33,639,678**	**146,989,564**

British Columbia comes first in total production, contributing over half the total cut in lumber and 81·5 p.c. of the shingles. Ontario comes second, Quebec third and New Brunswick fourth. Douglas fir was the most important kind of lumber sawn, being produced almost entirely in British Columbia. Spruce is sawn in every province and comes second, with white pine, hemlock and cedar next in order of importance. Cedar is the most important shingle wood sawn. The conifers form about 95 p.c. of the total cut of all kinds of wood in this industry, with only 5 p.c. deciduous-leaved trees or hardwoods.

Lumber Exportation.—The square timber trade reached its maximum development in the '60's, declined gradually and has now almost entirely disappeared. With its decline came the increased exportation of deals and other sawn lumber, first to Great Britain and later to the United States. Our trade with this latter country has been from the first largely confined to planks, boards and dimension stock. During the American Civil War our exports of forest products of all kinds to the United States for the first time exceeded those to Great Britain, but in late years this has become invariable. The total quantity of sawn lumber exported from Canada has changed little in the last 25 years, averaging about two billion feet board measure per annum. The exports in 1929 amounted to 1,762,431,000 feet board measure, valued at $49,572,861, of which the United States took 78 p.c. and Great Britain about 10 p.c. The exports of lumber increased in 1929 as compared with 1928, while the exports of shingles and lath declined.

Subsection 4.—Summary of Primary Forest Production.

For the purpose of comparing primary industries such as agriculture, fishing, forestry and mining, forestry production is here understood to consist of the total value of the products of woods operations, together with the value added by manufacture in sawmills and pulp-mills, but not in paper-mills. Forestry production under this system of classification, amounted to $323,654,008 in 1928 or about 14 p.c. of the total primary production for the Dominion, which was estimated at $2,283,895,997. Forest production, therefore, stood in second place in this respect, being exceeded by agriculture with $1,501,271,463 or 66 p.c. and followed by mining, with $274,989,487 or 12 p.c.

Subsection 5.—Other Forest Industries.

Sawmills and pulp-mills draw their supplies of raw material direct from the forest in the form of logs and pulpwood, and produce sawn lumber, other sawmill products and pulp and paper. There are also a number of important industries which use these products as raw material for further manufacture. Some of them produce commodities made almost entirely of wood, wood-pulp or paper, others manufacture articles in which wood is the most important component, and others produce articles in which wood is necessary but forms only a small proportion of the value. There are, in addition, a number of industries which use wood indirectly in the manufacture of articles which do not contain wood as a component part. The first class includes the manufacture of paper, sash, doors and other millwork and planing-mill products; boxes, baskets, cooperage and other containers; canoes, boats and small vessels; kitchen, bakers' and dairy woodenware; wooden pumps, piping, tanks and silos; spools, handles, dowels and turnery. The second class includes the manufacture of furniture, vehicles and vehicle supplies, coffins and caskets, etc., and the use of paper in printing and the manufacture of paper boxes, bags, stationery and paper goods. The third class, where wood has a secondary importance, includes the manufacture of agricultural implements, railway rolling stock, musical instruments, brooms and brushes, etc. The fourth class could be said to include practically every form of industrial activity, as few, if any, of these are entirely independent of the use of wood, directly or indirectly.

Subsection 6.—Manufactures of Wood and Paper.

A classification based on the chief component material in the products of each manufacturing establishment is now largely used in comparing manufacturing industries and for external trade purposes. Under this system most of the forest industries fall in the wood and paper group. In 1929 the gross value of production for all classes of manufactured products amounted to $4,063,987,279, of which total the wood and paper group contributed $725,819,740 or nearly 18 p.c. It was exceeded in this respect by the vegetable products with about 19 p.c. and the iron and steel group with slightly over 18 p.c. Of the ten groups of industries into which the industrial census is divided, the wood and paper group, which includes the manufacture of lumber, pulp and paper as well as the wood- and paper-using industries, was highest in number of establishments with 7,405, in capital invested with $1,152,075,234, in total number of employees with 164,182 and in salary and wage distribution with $192,235,448.

In few industries did manufacture add, in 1929, a higher percentage to the raw material used than in the wood- and paper-using industries; in the manufacture of pulp and paper this percentage is 151 and in the lumber industry, 75. By the manufacture of lumber into planing-mill products its value is increased by 78 p.c. For the wood and paper group as a whole the net value of production or the value added by manufacture in 1929 was $411,616,451, or 131 p.c. of the value of raw materials used. In respect also of the net value of production the wood and paper group of industries surpasses all the other groups of manufactures. Further details are given in the Manufactures chapter on pp. 426 and 427 of the present volume.

The forests of Canada contribute an important part to her total export trade. During the fiscal year ended Mar. 31, 1930, exports of forest origin amounted to $289,566,675 and made up 25·8 p.c. of the total value of exports for the period, amounting to $1,120,258,302. Exports of forest origin were exceeded only by those of farm origin, which made up 34·3 p.c. of the total and were followed by products of mineral origin with 23·3 p.c. Forest products are also prominent among the individual items of exportation. Newsprint paper is second only to wheat on the list and sawn lumber and wood-pulp come fourth and fifth. The gross contribution of the forest toward a favourable trade balance for Canada amounted to $229,018,309 during the same period.

Subsection 7.—Forest Depletion and Increment.

Fire Losses.—No accurate summing up of forest fire losses in Canada's forests has ever been made, but it has been estimated that 60 p.c. of the original forest has been burned, 13 p.c. has been cut for use and 27 p.c. remains: Though the loss of merchantable timber has been greatly reduced in recent years by forest protective services and the education of the public, it still constitutes a serious drain on our resources. At a low estimate fire destroys annually about 300 million cubic feet of merchantable timber and the young growth on 530,000 acres.

Since the historic Miramichi fire which burned along the valley of the Miramichi river in New Brunswick in 1825 there have been a number of disastrous forest fires. About 1845 vast areas, west of lake Superior, were burned over. Some years later a very extensive fire burned along the height of land from lake Timiskaming to Michipicoten. In 1871 a fierce fire swept over more than 2,000 square miles of forest, from lake Nipissing westward along the north shore of Georgian bay. About the same time the greater part of the Saguenay and Lake St. John district, in Quebec, was swept by one of the most destructive fires on record. Two other fires in 1891 and 1896 devastated more than 2,000 square miles of country in the southern Algoma district. In Quebec, the country along the line of the Quebec and Lake St. John Railway also suffered by a number of disastrous forest fires.

During more recent times, a series of disastrous fires swept over northern Ontario. A number of isolated fires around the mining camp of Porcupine culminated, on July 11, 1911, in a conflagration which resulted in the loss of 72 lives and property damage estimated at $3,000,000. In 1916, fires in the same general region were responsible for the deaths of at least 224 people. In 1922 a third fire destroyed the town of Haileybury and other centres. In 1908, a fire originating in the forest around Fernie, British Columbia, destroyed that city. Every year thousands of acres are devastated by fires of less individual importance, which in the aggregate are rapidly depleting our forest resources.

Speaking generally, there are two annual periods in Canada when the forest fire hazard is highest—in the spring, after the disappearance of the snow, when the forest floor is dry and the green underbrush has not yet developed, and again in the fall when the green growth is dead and the ground is covered with dry leaves. Statistics collected by the different government administrations and the Quebec protective associations show that over 95 p.c. of the fires of known origin are due to human carelessness and therefore preventable. Campers, settlers and railways are responsible for most of the fires whose origin is determined. Other causes, including lumbering operations, lightning and incendiarism, account for smaller proportions.

Losses through Insects and Fungi.—From 1912 to 1923 the spruce bud-worm caused tremendous damage to the spruce and balsam fir forests in Eastern Canada. In Quebec, it was estimated that 100 million cords of pulpwood were destroyed by this insect, and in New Brunswick the loss was placed at 15 million cords. In this region the active stage of the infestation is now practically over, but the insect is now causing damage in northern Ontario and Cape Breton Island. Other insects though not as destructive as this one, entail a heavy drain on the forest. The hemlock looper and a new species closely related to the spruce bud-worm are causing considerable damage in eastern coniferous forests. During the last few years, dusting by aeroplane has been developed on a practical basis by the Entomological Branch of the Department of Agriculture and promises to be effective in the control of defoliating insects. The loss caused by the various forms of rot and other fungous diseases is probably not less than that caused by insects under normal conditions. The butt rot is especially prevalent in balsam fir, and the value of the hardwoods is also greatly decreased by rot.

Summary of Losses and Increment.—The annual consumption of standing timber for use amounts to about 2,900,000,000 cubic feet. At a very low estimate, fire destroys annually about 300,000,000 cubic feet of merchantable timber and the young growth of various ages on 530,000 acres. The destruction occasioned by insects, fungi and windfall is not known, but is estimated at 800,000,000 cubic feet per annum. It may be safely estimated that the forests of Canada are being depleted at the rate of upwards of 4,000,000,000 cubic feet per annum. With about 665,800 square miles of timber in a growing condition, an average annual increment of 10 to 11 cubic feet per acre would be quite possible under forest management and would cover this depletion, but in view of the destruction of young growth which occurs and the deterioration of the forests and the soil, caused by repeated fires, there is little hope that this increment is being produced at the present time throughout Canada, although particular areas are producing greatly in excess of this quantity, and extensive reproduction and rate of growth surveys being conducted by the Dominion Forest Service indicate that the increment is greater than previously anticipated.

CHAPTER X.—THE FUR TRADE.[1]

Historical Sketch.—The place which the fur trade held during the French *régime* in Canada, when for a century and a half it was at once the mainspring of discovery and development and the curse of settled industry, is familiar history. Later, the Hudson's Bay Company may be said with truth to have held the West until the Dominion had grown to absorb it, bequeathing to the civilization which came after, a native race accustomed to the white man and an example of organization and discipline that was of lasting value. The salient facts in the story are given in the following paragraphs.

From the earliest times the Basque and Breton fishermen from the "Banks" had traded for furs. As the French court demanded more and more furs, adventurers came for the fur trade exclusively. Pont-Gravé and Chauvin built Tadoussac in 1599 as a centre for this trade with the Indians of the Saguenay, and when trade routes were discovered farther inland, the founding of Quebec and Montreal followed. The French Government from the first granted monopolies of the fur trade, always on the condition that the company should bring to Canada a stated number of settlers. But settlement and the fur trade could never go together—settlement, by driving fur-bearing animals farther afield, made trade increasingly expensive—and the great profits of the fur trade, together with its freedom and romance, took all the adventurous from the rational pursuits of settlers. Trade spread west and south by the river routes, convoys bringing the furs yearly to Montreal and Quebec. The de Caen Company, in the seventeenth century, sent yearly to France from 15,000 to 20,000 pelts. "Beaver" was made the Canadian currency.

In the meantime, English navigators had been seeking a Northwest Passage to the Orient. By 1632 their efforts came to an end with little practical result. Hudson bay, however, had been accurately charted, so that when the first English fur-trading ships came some 30 years later, they sailed by charted routes to a safe harbour. The first expedition came at the instigation of Radisson and Groseilliers, two French *coureurs des bois* who had travelled in the rich fur country north of lake Superior. They had sought aid in France but being repulsed turned to England. The charter of the "Adventurers of England trading into Hudson's Bay" was obtained in 1670 by Prince Rupert, uncle of Charles II, who became first Governor of the company (whence the name Rupert's Land). During the struggle with the French, beginning about 1685, no dividends were paid, but with the English victory the company resumed payments. Forts were built on Hudson bay and James bay at the mouths of rivers; the company, as monopolist, waited for the furs to be brought to its posts.

With the Seven Years' War, the fur trade from the south passed out of the hands of the French, and until 1771 the English were busy re-discovering the old French routes to the West. A period of open competition followed. The discoverer of a new fur district was soon followed by competitors who undersold him and were undersold by him until some or all were ruined and left for new fields. The Northwest Company, founded in 1783-4, was a result of such competition. No capital was deposited, but each party supplied a proportion of the articles needed for trade. The Northwest Company pursued a vigorous policy, founding posts to control all the best fur districts. The Hudson's Bay Company felt the keenness of the competition, and was forced to abandon its ancient policy of waiting for furs to be brought to the bay. By 1816, the rivals had absorbed or ruined eleven other partnerships, and were themselves on the verge of ruin. Finally, in 1821, the two were joined under the name of the older company. The Northwest Company brought with it the control of the Pacific and Arctic watersheds, to be added to the lands draining into Hudson bay, and over the whole region the Hudson's Bay Company secured legal recognition of its monopoly of the fur trade. There followed 40 years of great prosperity. The company's rights of exclusive trading in Indian territory expired in 1859, and ten years later it surrendered its other privileges. In return, Canada granted £300,000 to the company, as well as lands about its trading posts, and one-twentieth of the land in the fertile belt between the North Saskatchewan river and the United States boundary. The Hudson's Bay Company thereupon became a trading company, with no extraordinary privileges.

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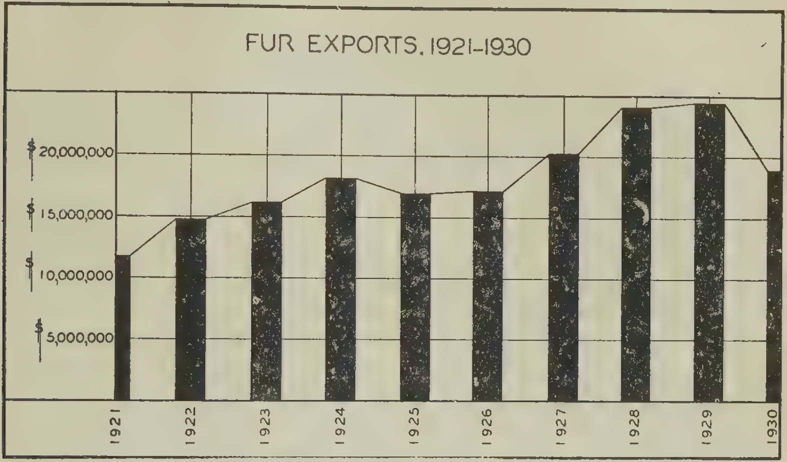
[1] Revised by Miss F. A. Brown, Chief of the Fur Statistics Branch, Dominion Bureau of Statistics. This Branch publishes a detailed Annual Report on the Production of Raw Furs (Wild Life), obtainable from the Dominion Statistician.

The Modern Industry.—Great changes have come over the trade in recent years. The railway has revolutionized conditions wherever its influence reaches. Steamboats now ply upon the larger lakes and rivers. Rising values have led to new processes of treatment and to the utilization of products once rejected. Competition has been encouraged, and new territory is eagerly sought as in the days prior to 1821. The modern competition, though it ranges throughout Canada, has centred at Edmonton, on the edge of the great preserve. Winnipeg is now the chief collecting and distributing point of the Hudson's Bay Company, and Montreal collects the furs of the Ottawa valley and the Quebec hinterland.

During the Great War, the important market changed from London to the United States. Of the $5,100,000 worth of undressed furs exported to England and the United States in 1914, England received $3,000,000; in 1919, out of $13,300,000 worth, only $3,700,000 went to England. The English market is now regaining its former place in the fur trade and in the fiscal year 1930 took $10,314,193 worth of raw furs, while the United States took $7,603,282 out of a total export of $18,706,311. (Figures of exports in recent fiscal years will be found in Table **12** of the chapter on External Trade.) A century ago the value of furs exported exceeded that of any other Canadian product; the total output is not declining, but exports for the year 1930 were only about 1·7 p.c. of our total exports of Canadian merchandise. The following graph shows the trend of exports over the past ten years; it will be seen that, on the whole, it has been definitely upward in face of the fact that the general trend of fur prices has been downward. Of the total exports of raw furs in 1930, nearly 55 p.c. went to the United Kingdom and 41 p.c. to the United States.

At the close of the war, Montreal took a position as an international fur market, holding the first Canadian fur auction sales in 1920, when 949,565 pelts, valued at $5,057,114, were disposed of. At the auction sales held in Montreal in 1929, 2,399,708 pelts were sold for $7,303,836. Sales are also held at Winnipeg and Edmonton. A growing industry is that of the dressing and dyeing of furs

In 1929 the number of fur skins treated in Canadian plants was 7,633,909, compared with 7,974,020 in 1928. The plants in operation numbered 10 in 1929, 12 in 1928 and 11 in 1927.



Improved methods of capture, together with the advance of lumbering, mining and agricultural settlement, have driven fur-bearing animals farther and farther afield. Close seasons have been declared for Russian sable, Bolivian chinchilla and Canadian beaver, but even this has been insufficient, as is shown by the continued decrease of the numbers of the animals. The fur trade has taken other methods to supply the demand by re-naming common and despised furs and by encouraging the use of the furs of domestic animals. About 40 years ago, Persian lamb, astrachan and broadtail, the product of the Karakul sheep, came into general use. A few of these sheep were imported into Canada some years ago, but the Canadian industry has not progressed as a source of supply for pelts. Of fur-bearing wild animals the fox has proved the best suited to demestication. The successful breeding of the fox on fur farms came in the period of rising prices after 1890, with the introduction of woven wire fencing. Other animals have been domesticated, though less successfully than the fox—raccoon, mink, marten, skunk, muskrat and beaver. For a review of the fur farming industry of Canada, see pp. 235 to 238 of this volume.

Conservation.—The conservation of the wild life of Canada has been made a special object of government policy through the organization, in 1916, of the Advisory Board on Wild Life Protection, to co-ordinate the efforts of various Departments and Branches of the Dominion Government in matters relating to the conservation of the wild-life resources of Canada. The Northwest Game Act and the Migratory Birds Convention Act are the most important subjects to which the attention of the Board is specially directed and upon which it makes recommendations. In addition, the Board investigates and studies all problems relating to the protection and better utilization of all fur-bearing animals, "big game" mammals and to bird life, whether game birds, insectivorous birds or others. The Board serves entirely without remuneration and during the whole period of its existence has incurred no expenditure.

In all provinces and territories of the Dominion, regulations governing the taking of fur-bearing animals are in force, and most kinds are protected during certain seasons of the year. In cases where special protection is necessary to avoid extermination of the species, the killing of the animals is prohibited over a period of years. Licences are required for trapping and trading, and direct revenue is derived by the provinces and territories from raw furs. The activities of the Dominion as a whole, with respect to wild life, are co-ordinated through biennial conferences of provincial and Dominion game protection officials. These conferences are called by the Department of the Interior, and have assisted in evolving efficient plans for the preservation of Canada's wild-life resources.

Fur Trade Statistics.—Statistics of the number and value of raw furs and skins taken were collected at the decennial census of 1881 and thereafter till 1911, the figures showing a value of $987,555 taken in 1880, $768,983 in 1890, $899,645 in 1900 and $1,927,550 in 1910. In 1920 the Dominion Bureau of Statistics commenced the annual collection of returns from fur traders, but arrangements were subsequently made with the provinces, whereby the provincial game departments undertook to supply annually to the Bureau, statements of the number and value of pelts taken in the respective provinces, the information being based on royalties, export taxes, etc. The figures of pelts taken and their values are given for the available years in Table **1**. The high value shown for 1920 is due to the inflated prices of that time.

Details by provinces of the number of pelts taken in the two latest years are given in Table **2**, and details by kinds in Table **3**. In the latter it will be noted that fox, taken together, is the leader, followed by muskrat and mink. Beaver, ermine (weasel) and marten each contributed over $1,000,000 to the fur production of Canada in the latest year. The total number of pelts in 1928-29 was 5,150,328, an increase of 1,549,175 over the preceding season. This increase was mainly due to three kinds, which have a large annual production but are among the lower priced furs, *viz.*, ermine (weasel), which increased by 390,846, or 78 p.c.; muskrat, which increased by 822,876, or 42 p.c.; and squirrel, which increased by 418,163, or 156 p.c On the other hand, many of the higher priced furs—beaver, coyote, fisher, blue fox, patch or cross fox, red fox, white fox, lynx, marten, raccoon and wolf—show decreases in number of pelts. Thus the value of pelts shows a slight decline in the latest year.

1.—Summary of the Numbers and Values of Pelts of Fur-bearing Animals Taken in Canada, years ended June 30, 1920-1929.

Year ended June 30.	Pelts.	Value of Pelts.
	No.	$
1920	3,680,004	21,387,005[1]
1921	2,936,407	10,151,594
1922	4,366,790	17,438,867
1923	4,963,996	16,761,567
1924	4,207,593	15,643,817
1925	3,820,326	15,441,564
1926	3,686,148	15,072,244
1927	4,289,233	18,864,126
1928	3,601,153	18,758,177
1929	5,150,328	18,745,473

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[1] Fur prices in this year were abnormally high. Any comparison of this figure with those of later years should take this into account.

2.—Numbers and Values of Pelts of Fur-bearing Animals Taken in Canada, years ended June 30, 1928 and 1929.

Province.	Numbers of Pelts.		Values of Pelts.	
	1927-28.	1928-29.	1927-28.	1928-29.
			$	$
Prince Edward Island	11,646	11,518	838,525	794,611
Nova Scotia	36,278	61,763	398,305	442,096
New Brunswick	57,546	74,810	435,027	551,663
Quebec	216,623	305,509	3,500,194	2,589,955
Ontario	800,747	1,011,262	4,401,889	4,346,894
Manitoba	345,634	380,151	1,461,116	1,292,275
Saskatchewan	686,957	1,006,432	1,869,551	2,208,546
Alberta	933,150	1,669,551	1,661,692	2,473,185
British Columbia	221,061	281,503	1,580,562	1,449,786
Northwest Territories	227,136	312,093	2,000,968	2,111,543
Yukon	64,375	35,736	610,348	484,919
Totals	**3,601,153**	**5,150,328**	**18,758,177**	**18,745,473**

3.—Kind, Number, Total Value and Average Value of Pelts of Fur-bearing Animals Taken in Canada, years ended June 30, 1928 and 1929.

Kind.	Numbers of Pelts.		Total Values of Pelts.		Average Values per Pelt.	
	1927–28.	1928–29.	1927–28.	1928–29.	1927–28.	1928–29.
			$	$	$	$
Badger	33,516	34,761	620,676	740,285	18·52	21·30
Bear, black and brown	6,679	6,694	53,133	45,473	7·96	6·79
Bear, grizzly	26	56	578	684	22·23	12·21
Bear, white	388	304	7,925	6,472	20·43	21·29
Bear, unspecified	178	134	1,533	1,262	8·61	9·42
Beaver	74,338	57,043	1,990,709	1,517,706	26·78	26·61
Coyote or prairie wolf[1]	53,327	51,736	839,022	847,679	15·73	16·38
Ermine (weasel)	498,118	888,964	773,786	1,198,858	1·55	1·35
Fisher or pekan	8,641	6,606	495,548	397,185	57·35	60·12
Fox, cross	13,349	8,472	935,263	638,241	70·06	75·34
Fox, red	53,671	37,964	1,443,875	1,132,186	26·90	29·82
Fox, silver	24,833	26,259	2,514,554	2,738,373	101·26	104·28
Fox, blue	452	316	29,033	23,090	64·23	73·07
Fox, white	33,822	18,572	1,527,352	993,259	45·16	53·48
Fox, unspecified	506	164	11,592	4,760	22·91	29·02
Lynx	21,369	11,604	865,909	545,703	40·52	47·03
Marten or sable	38,058	34,497	1,133,678	1,081,350	29·79	31·35
Mink	77,872	79,548	1,274,965	1,663,114	16·37	20·91
Muskrat	1,963,118	2,785,994	2,981,366	3,924,949	1·52	1·41
Otter	10,453	10,691	318,037	361,753	30·43	33·84
Rabbit	226,501	236,163	25,129	31,059	0·11	0·13
Raccoon	25,781	25,576	187,763	203,044	7·28	7·94
Skunk	112,417	118,196	209,075	222,240	1·86	1·88
Squirrel	268,449	686,612	52,680	135,351	0·20	0·20
Wild cat	1,493	1,728	12,014	11,742	8·05	7·80
Wolf[1]	21,373	13,162	397,006	243,747	18·58	18·52
Wolverine or carcajou	1,399	1,397	24,111	25,003	17·23	17·90
Caribou	537	446	2,167	1,069	4·04	2·40
Deer	10,826	2,439	21,810	5,116	2·01	2·10
Moose	1,138	456	3,607	1,498	3·17	3·29
Mountain sheep	55	–	83	–	1·51	–
Panther or cougar	444	530	2,220	2,539	5·00	4·79
Civet cat	221	221	170	151	0·77	0·66
Domestic cat	180	1,513	45	457	0·25	0·30
Gopher	17,625	1,502	1,763	75	0·10	0·05
Totals	**3,601,153**	**5,150,328**	**18,758,177**	**18,745,473**	–	–

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[1] Coyote or prairie wolf pelts for Manitoba are included with wolf pelts.

CHAPTER XI.—THE FISHERIES.[1]

Section 1.—The Early Fisheries.

Fishing is one of the earliest and most historic industries of Canada. From a date which precedes authentic record, the Normans, the Bretons and the Basques were on the cod banks of Newfoundland. Cabot, in 1498, when he first sighted the mainland of North America, gave it the name of "Bacalaos", the Basque word for cod fish, which he found already in use among those hardy seamen. Cape Breton, one of the oldest place-names in America, is another memorial of the early French fishermen—and the Spaniards and the Portuguese were but little behind. Fernandez de Navarette mentions all three as frequenters of the Grand Bank before 1502. The fishing was by hand lines over barrels made fast to the bulwarks to prevent fouling, the vessels remaining during fine weather, then returning to France with from 30,000 to 50,000 cod. Voyages along the coast soon showed the cod as plentiful inshore as on the outer banks, and it became common for a crew to anchor in a bay, erect a hut on shore, and make daily excursions to the fishing grounds—the product being salted and dried on land and at the end of the season shipped to France. Jacques Cartier, in the gulf of St. Lawrence in 1534, found traces everywhere of these early "Captains Courageous" and their rivalries in arms, as well as in the capture of the teeming product which had tempted them so far from home. An establishment of the kind just mentioned was founded at Tadoussac by Chauvin in 1599. Soon the fishermen began to stay all winter and thus to erect permanent fishing settlements. Fishing, therefore, may well be regarded as the first industry to be systematically prosecuted by Europeans in what is to-day the Canadian domain. It has never since ceased to yield a perennial harvest to both Europe and America.

By the Treaty of Utrecht in 1713, Britain became the owner of Newfoundland and excluded France from fishing and drying fish on certain sections of the coast, but France retained the fisheries of Cape Breton and the gulf. The Seven Years' War (1756-1763) put a stop to continuous fishing. At its close, the Robin family of Jersey came to Canada, and gradually acquired the former French fishing stations. Until the arrival of the Loyalists, all other fishing but cod was neglected. Inshore fisheries alone (including those of the Labrador coast) were developed during this phase; no deep-sea fishing vessel put out from Lunenburg, now the chief centre of the deep-sea fishery, until 1873.

Section 2.—The Canadian Fishing Grounds.

The fishing grounds of the Dominion of Canada are perhaps the most extensive in the world. On the Atlantic, from Grand Manan to Labrador, the coast line, not including the lesser bays and indentations, measures over 5,000 miles. The bay of Fundy, 8,000 square miles in extent, the gulf of St. Lawrence, fully ten times that size, and other ocean waters, comprise not less than 200,000 square miles, or over four-fifths of the area of the fishing grounds of the North Atlantic. In addition there are on the Atlantic seaboard 15,000 square miles of inshore waters controlled entirely by the Dominion. Large as are these areas, they represent only a part of the fishing grounds of Canada. The Pacific coast of the Dominion measures 7,180 miles in length and is exceptionally well sheltered; whilst throughout the interior is a series of lakes which together contain more than half of the fresh water on the globe, Canada's share of the Great Lakes alone amounting to over 34,000 square miles, a total which of course does not include lake Winnipeg (9,457 square miles), lake Manitoba and others of even greater area.

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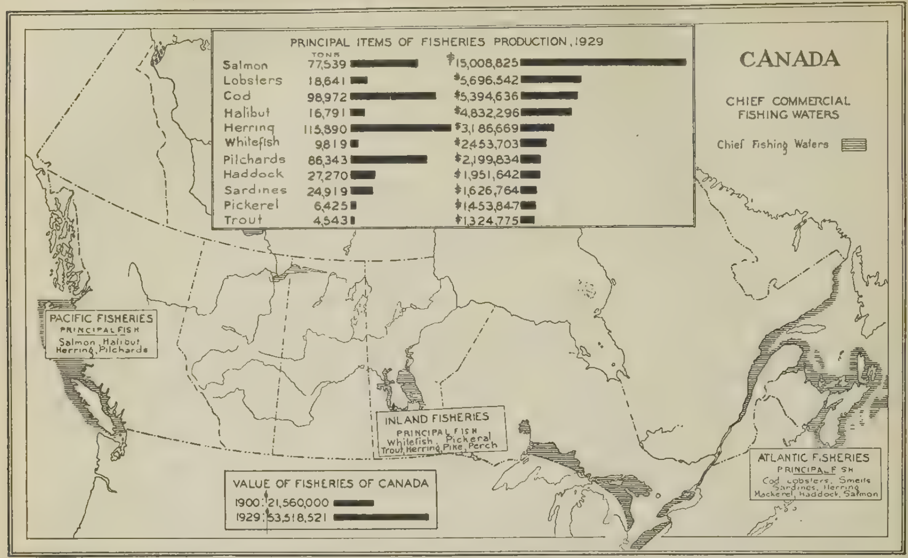
[1] Revised by Miss F. A. Brown, Chief, Fisheries Statistics Branch, Dominion Bureau of Statistics. This Branch publishes an Annual Report on the Fisheries Statistics of Canada, together with Advance Summaries on Fish Caught, Marketed and Prepared, by Provinces. These may be obtained from the Dominion Statistician.

Still more important than the extent of the Canadian fishing grounds is the quality of their product. It is an axiom among authorities that food fishes improve in proportion to the purity and coldness of the waters from which they are taken. Judged by this standard, the Canadian cod, halibut, herring, mackerel, whitefish and salmon are the peers of any in the world. It is possible, therefore, to state that by far the most valuable fisheries of the western hemisphere, if not of the globe, belong to Canada.

It will be seen from the above that it is impossible to deal adequately with the Canadian fisheries in the aggregate; they are those of a continent rather than of a country, and are of corresponding diversity. Omitting the enormous Hudson Bay and peri-Arctic region, which extends from Ungava to Alaska and the fish resources of which are not known, the Canadian fisheries may be divided into Atlantic, inland and Pacific fisheries.

Atlantic Fisheries.—These were the first Canadian fisheries in point of time, and until 1918 they remained the most important in aggregate value of product. Cod, halibut, haddock, hake, herring, mackerel, lobster, oyster, and hair seal fisheries are included. The estuarian and inland waters of the Maritime Provinces and of Quebec are sometimes considered as distinct; if they are added the list of products would embrace the salmon, the shad, the gaspereau (alewife), the smelt, the striped bass, the tom cod, the trout and the maskinonge. Conditions are fairly uniform throughout these fisheries, which are commonly divided into the inshore and deep-sea fisheries. The inshore or coastal fishery is carried on in small boats, usually motor-driven, with crews of two or three men, and in small vessels with crews of from four to seven men. The means of capture employed by boat fishermen are gill nets and hooks and lines, both hand lines and trawls; trap nets, haul seines and weirs are operated from the shore. Haddock as well as cod is a staple product; during the spring and summer it is split and salted, but the important season is the autumn, when the fish are shipped fresh or else smoked and sold as finnan haddie. The deep-sea fisheries are worked by vessels of from 40 to 100 tons, carrying from 12 to 20 men, operating with trawl lines from dories. The fleets operate on the various banks, such as Grand Bank, Middle Ground and Banquereau. The vessels, built by native hands, remain at sea sometimes for months at a time, and, in the hands of sailors who have no superior, seldom come to grief. When they return, the fish, principally cod, which have been split and salted on board, are taken ashore, washed and dried. The West Indies are the chief market for this product. No cod fish in the world stands the tropical climate like that cured by Nova Scotian fishermen. Steam trawling, as it is carried on in the North Sea, was introduced on the Atlantic coast of Canada

Fisheries Production and Fishing Grounds of Canada.


PRINCIPAL ITEMS OF FISHERIES PRODUCTION, 1929
TONS
Salmon 77,539 $15,008,825
Lobsters 18,641 $5,696,542
Cod 98,972 $5,394,636
Halibut 16,791 $4,832,296
Herring 115,890 $3,186,669
Whitefish 9,819 $2,453,703
Pilchards 86,343 $2,199,834
Haddock 27,270 $1,951,642
Sardines 24,919 $1,626,764
Pickerel 6,425 $1,453,847
Trout 4,543 $1,324,775
CANADA
CHIEF COMMERCIAL FISHING WATERS
Chief Fishing Waters ▤
PACIFIC FISHERIES
PRINCIPAL FISH
Salmon, Halibut
Herring, Pilchards
INLAND FISHERIES
PRINCIPAL FISH
Whitefish, Pickeral
Trout, Herring, Pike, Perch
VALUE OF FISHERIES OF CANADA
1900: $21,560,000
1929: $53,518,521
ATLANTIC FISHERIES
PRINCIPAL FISH
Cod, Lobsters, Smelts
Sardines, Herring
Mackerel, Haddock, Salmon

several years ago. There are now several steam trawlers operating from Nova Scotian ports. They operate practically the whole year and their catches are utilized entirely for the fresh fish trade.

Lobstering is another distinctive industry. In 1870, there were three lobster canneries on the Atlantic coast of Canada; to-day the canneries number almost 400 and give work to nearly 6,000 people; 30,000,000 lobsters is a normal catch. The difficulty of enforcing regulations as to the capture of undersized and spawning lobsters offers a constant problem in connection with the output, but the resulting decline is now thought to have been arrested. Oysters, once plentiful everywhere, are now found in somewhat diminished quantities. In New Brunswick the canning of sardines, locally young herring and not a distinct type of fish, is second only to lobstering.

The fishing population of the Maritime Provinces is a specialized and stable industrial class. The coast fisheries are operated from April to November, or to January in sheltered districts, and, though the larger vessels work all winter, several thousand men are available for a time each year for other employment. This they find about the small plots of land, which most of them own or occupy, in the lumber camps of New Brunswick or about the collieries of Nova Scotia. A few from Lunenburg and other centres engage in the West Indian trade. Apart from restrictions of weather and close seasons the prevailing method of paying the men on shares has a further tendency in years of low catches or prices to drive them into secondary occupations.

Inland Fisheries.—The Great Lakes and tributary waters of the St. Lawrence form a second great division of the Canadian fisheries. Whitefish, trout, perch, pickerel and lake herring are the most important commercial fishes of Ontario, though pike, sturgeon and coarse fish yield a fair return. The value of the inland fisheries of Quebec lies chiefly in the output of the eel and pickerel fisheries. The season on the Great Lakes lasts from six to eight months, and, though fishing through the ice is followed by many, a large number depend on miscellaneous employment between the seasons. Moving westward, lake Winnipeg, lake Winnipegosis, lake Manitoba and the smaller lakes to the north and west furnish most of the fish products of Manitoba. Whitefish and pickerel are the chief products, but pike, tullibee, goldeye and many other varieties abound. In Saskatchewan and Alberta, commercial fishing is confined to the regions north of the Saskatchewan river, where whitefish in large quantities are taken. The problem of transportation is keenly felt; some of the greatest lakes of the continent—Reindeer, Athabaska, Great Slave, Great Bear—and hundreds of smaller bodies of water are still beyond reach from a marketing point of view. The lakes of the West, however, repeating the part which the St. Lawrence played in the days of the French *régime* and the cod banks in the history of New England, have assisted greatly in the settlement of the country by providing a much needed food supply for the pioneers.

Pacific Fisheries.—In British Columbia there is an interior fishing region which corresponds in the main to the prairie section; in the early history of the province it is doubtful if the fur trade (which opened the door by way of the Rocky mountains to later enterprise) could have established its footing but for these fisheries. The great piscatorial wealth of British Columbia, however—the source from which she produces approximately two-fifths of the fish products of Canada, and has built up a trade which reaches to the ends of the earth—is the estuarian salmon fisheries of the Fraser, the Skeena, the Nass and other rivers of the Pacific slope. Every species of this king of food fishes (which, however, is not the true salmon) known to the waters of the Pacific is to be found in the British Columbia coast waters—the sockeye, the spring, the cohoe, the pink and the chum salmon. Of these the sockeye is by far the most important, owing to its abundance and its prevailing deep red colour and excellent texture, which have created so keen a demand for it in the British market. On the Fraser river, which used to be the chief source of supply, but has now yielded place to the Skeena and other northern waters, the yield varies to a considerable extent from year to year. The run begins late in July and is at its height in the opening weeks of August, though the northern rivers have a somewhat earlier season. The spring or quinnat salmon is a much larger fish; it was the species first used in the United States for canning. The run begins early in the spring and continues until July. The cohoes are smaller, running like the sockeye in compact schools during September and October on the Fraser and earlier on the northern streams. The chum salmon is salted and canned, the salted product going chiefly to the Orient. The pink salmon, again, follows the sockeye. Many of the employees in this fishery are Chinese, Japanese and Indians, the Chinese preponderating in the canneries and the Indians and Japanese in fishing operations.

Until recent years the other coastal fisheries of British Columbia were only slightly developed. Halibut abounds off Vancouver island and between the Queen Charlotte islands and the mainland, and though the first endeavour to establish an industry was unsuccessful, by 1903 British Columbia supplied 10,000,000 pounds of the 25,000,000 taken on the whole Pacific coast north of California. The former figure has since trebled. Similarly, the herring industry remained undeveloped until recently. There is also the whale fishery, which has now two stations on the Queen Charlotte islands. The yearly catch includes whales of many kinds—sulphur bottom, finback and humpback, with an occasional sperm whale. Whale hunting is carried on in fast boats with Svend Foyn harpoon guns—a method which was introduced from Norway. Every scrap of the whale is used—oil, whalebone and meal are its most important products. Black and ling cod, oulachon, flounders, skate, soles, smelts, pilchards and sturgeon are also abundant in British Columbian waters.

A word might be added with regard to the fur-seal fisheries of the Pacific, whose historic headquarters was the city of Victoria. The industry has disappeared, in part through the scarcity of the animals and in part through the workings of the Pelagic Sealing Treaty of 1911.[1] The hair-seal fleets of the North Atlantic make St. John's, Newfoundland, their headquarters.

Game Fish.—The above is a purely industrial and commercial survey. Fishing for sport, however, has its economic side in a country of such famous game fish as the salmon of the Restigouche, the black bass of the Quebec and Ontario highlands and the trout of the Nipigon. A considerable public revenue is derived from the leasing of waters in sparsely settled districts to clubs and individuals for sporting purposes. Several hundred guides find employment here during the summer months.

Section 3.—The Government and the Fisheries.

Upon the organization of the Government at Confederation, the administration of the Canadian fisheries and marine was placed in the charge of a Department of the Dominion Government, which then exercised complete jurisdiction over the fisheries under the supervision of a Cabinet Minister, with a large staff of inspectors, overseers and guardians to enforce the fishery laws. Early in 1930 a change in departmental organization was effected, whereby two departments, each in charge of a Cabinet Minister, were created to administer respectively the Marine and the Fisheries.

In 1882, 1898, 1913 and 1920, decisions in the courts considerably altered the status of jurisdiction as between the Dominion and the provinces. To-day the Dominion controls the tidal fisheries of the Maritime Provinces and British Columbia and the fisheries of the Yukon and Northwest Territories. The non-tidal fisheries of the Maritime Provinces, the Prairie Provinces and Ontario and both the tidal and non-tidal fisheries of Quebec (except the fisheries of the Magdalen islands) are controlled by the respective provinces, but the right of fisheries legislation for all provinces rests with the Dominion Government. See the Fisheries Act (R.S.C. 1927, c. 73). The expenditure of the Dominion on the fisheries in the fiscal year 1929-30, including Civil Government salaries, contingencies, etc., was $2,433,738, and the revenue $197,565.

Conservation.—River and lake fisheries certainly, and sea fisheries probably, if left to themselves, conform to the economic law of diminishing returns. The Canadian Government, accordingly, has had for a main object the prevention of depletion, the enforcement of close seasons, the forbidding of obstructions and pollutions and the regulation of nets, gear and fishing operations generally. In addition, an extensive system of fish culture has been organized; the Dominion, in 1929, operated 30 main hatcheries, 10 subsidiary hatcheries and 5 salmon-retaining ponds at a cost of $360,884, and distributed 570,287,381 eggs, fry or older fish, mostly B.C. salmon, Atlantic salmon, pickerel and whitefish. The young fish are distributed gratis if the waters in which they are to be placed are suitable and are open to public fishing.

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[1] For the text of this treaty, see pp. lxxxvii-xciii of the Statutes of Canada, 1912.

Direct Assistance.—Since 1927 fish collection services have been operated on several stretches of the Atlantic coast by the Fisheries Branch of the former Department of Marine and Fisheries or by the present Department of Fisheries. Fishermen in the territories covered by the fish collection boats are thus enabled to sell their catches promptly and have them delivered to purchasers at central points at small cost, and are also able to spend their time in catching fish instead of in preparing their catches for the dried and cured-fish markets. Again a system has been established of broadcasting radio reports as to weather probabilities, bait and ice supplies, ice conditions along the coast and prevailing prices. Further, under authority of the Fish Inspection Act (R.S.C. 1927, c. 72), systems of instruction in improved methods of fish curing and barrel making have been in operation for several years.

Scientific Research.—Stations under the direction of the Biological Board of Canada for the conduct of biological research into the numerous complex problems furnished by the fisheries are established at Halifax, N.S., St. Andrews, N.B., and Nanaimo and Prince Rupert, B.C.; Toronto, McGill, Queen's, Manitoba, British Columbia and the chief Maritime Province universities send workers to these stations, chiefly professors and trained specialists. The life-histories of edible fishes, the bacteriology of fresh and cured fish, improved methods of handling and preparing fish and numerous other practical problems have been taken up and scientific memoirs and reports issued.

International Problems.—The chief international fisheries problem is the question of the rights of the United States, whose fishermen were granted, by the Treaty of Versailles, certain privileges in the Canadian inshore fisheries. Losing these by the war of 1812, the United States, after 1818, surrendered all but their liberty to call at Canadian ports for shelter, wood, water, or to make repairs, and to fish around the Magdalen islands and on the north shore of the gulf of St. Lawrence from Mont Joli eastward, and to dry and cure their fish in any of the unsettled bays on this portion of the North Shore.

Questions of interpretations to be placed on certain parts of the Treaty of 1818 were set at rest for the years 1854-1866, by the Reciprocity Treaty. This treaty provided for the free admission into either country of the fish products of the other, and the fishermen of each country were allowed to fish in Atlantic territorial waters of the other, with the exception of specified rivers and other grounds.

In 1871, the Treaty of Washington revived the fishery provisions of the Reciprocity Treaty of 1854, and provided for a commission to determine the compensation to be paid by the United States to Great Britain as the difference in the value of the concessions mutually granted. This commission sat at Halifax in 1877, handing down the "Halifax Award," the amount of which was $5,500,000. In 1885, however, the United States terminated the fisheries articles of this treaty, and a period of disagreement followed. A settlement was negotiated in 1888, when the plenipotentiaries of the two nations agreed to the "Unratified Treaty of 1888", which contained the provision that United States fishing vessels were to be granted, without fee, annual licences authorizing them to purchase provisions and outfits in Canadian ports, to tranship catches and to ship crews. Out of this treaty grew the so-called *modus vivendi* licences. Since it was recognized that the treaty could not receive official sanction before the commencement of the fishing season, it was agreed that the United States fishing vessels, on payment of $1.50 per registered ton, should receive annual licences conveying the above privileges. The treaty was rejected by the United States Senate, but Canada continued to issue *modus vivendi* licences up to 1918, when arrangements were made for reciprocal privileges in the ports of either country. The arrangement was discontinued in the United States on July 1, 1921. In the following year the *modus vivendi* licences were revived in Canada, but the system was terminated on Dec. 31, 1923, and the United States fishing vessels are now limited to the provisions of the Treaty of 1818.

On the Great Lakes also, the more important fishery problems, such as restocking and marketing, are necessarily international in character, and are complicated by the number of State Governments interested. Much the same situation has developed in British Columbia, where the sockeye of the Fraser are taken by the canners of Puget sound in quantities that largely exceed the catch of the Canadian canners, and by trap nets and other methods forbidden in Canadian waters. In 1906 an International Commission first discussed the question, while in 1922 the prohibition of sockeye fishing in the Fraser for five years, with a view to conservation, was recommended by a Parliamentary Commission.

The Halibut Fishery.—The halibut fishery on this side of the Pacific is engaged in only from Canadian and United States ports, but owing to the fact that it is largely carried on beyond territorial waters, neither country alone can control it. At the same time it is in the interests of both countries that the fishery should be permanently maintained in a flourishing condition. The question of finding an adequate method of dealing with the matter was therefore one of those referred to the Canadian-American Fisheries Conference that was appointed in 1918 by the Governments of the two countries to consider a settlement of outstanding fishery questions between Canada and the United States. In 1922 Canada proposed that the halibut question should be considered by itself. This was agreed to, and resulted in the treaty signed Mar. 2, 1923, "For the Protection of the Pacific Halibut". Under this treaty a close season is provided for halibut fishing from Nov. 16 in each year to Feb. 15 following, both dates inclusive. This treaty was ratified on Oct. 21, 1924, and became effective Nov. 1, 1924 (see c. 75 of the Revised Statutes of Canada, 1927). A further convention, signed by the plenipotentiaries of both countries at Ottawa on May 9, 1930, extended the close season for halibut fishing to cover the period Nov. 1 in each year to Feb. 15 following, both dates inclusive, such convention to remain in force for a period of five years and thereafter until two years from the date when either country shall give notice to the other of its desire to terminate it.

Fishing Bounties.—An important though indirect aftermath of the Washington Treaty remains. By an Act of 1882 (45 Vict., c. 18), for the development of the sea fisheries and the encouragement of boat-building, provision was made for the distribution annually among fishermen and the owners of fishing boats of $150,000 in bounties, representing the interest on the amount of the Halifax Award. An Act of 1891 (54-55 Vict., c. 42), increased the amount to $160,000, the details of the expenditure to be settled each year by Order in Council. For the year 1929, payment was made under authority of the Deep Sea Fisheries Act (R.S.C. 1927, c. 74), on the following basis:—to owners of vessels entitled to receive bounty, $1 per registered ton, payment to the owner of any one vessel not to exceed $80; to vessel fishermen entitled to receive bounty, $7.50 each; to owners of boats measuring not less than 12 feet keel, $1 per boat; to boat fishermen entitled to receive bounty, $6.65 each. The claims paid numbered 9,546, compared with 9,390 paid in the previous year. The total amount paid in 1929 was $159,763. Details of the distribution of bounties for the years 1926 to 1929 are as follows:—

1.—Government Bounties Paid to Fishermen for the calendar years 1926-1929.

Province.	Number of Men who Received Bounties.				Amount of Bounties Paid.			
	1926.	1927.	1928.	1929.	1926.	1927.	1928.	1929.
	No.	No.	No.	No.	$	$	$	$
Prince Edward Island	2,066	1,713	1,309	1,473	13,221	12,095	9,334	10,745
Nova Scotia	10,623	9,564	9,470	10,036	83,007	82,107	79,078	83,459
New Brunswick	2,079	2,223	2,240	2,504	16,721	19,907	19,388	20,311
Quebec	7,554	6,222	6,214	6,294	46,819	44,267	43,611	45,248
Totals	**22,322**	**19,722**	**19,233**	**20,307**	**159,768**	**158,376**	**151,411**	**159,763**

Fisheries Statistics.—The fisheries statistics of Canada are issued under an arrangement for statistical co-operation between the Dominion Bureau of Statistics and the Branches of the Dominion and Provincial Governments, having jurisdiction with regard to fisheries, throughout Canada. These Branches comprise: the Fisheries Department of the Dominion Government, exercising jurisdiction over the fisheries of the Maritime Provinces, the Territories and British Columbia; and the Fisheries Branches of Ontario, Quebec, Manitoba, Saskatchewan and Alberta, which have jurisdiction over the fisheries of their respective provinces, excepting that in the case of Quebec the fisheries of the Magdalen islands are under the jurisdiction of the Dominion authorities. The province of British Columbia has a Fisheries Branch, but it does not engage in independent statistical work. Under the arrangement above referred to, the statistics of the catch and of the products marketed in the fresh state or domestically prepared are collected by the local officers of the Fisheries Branches, checked in the Department of Fisheries and compiled in the Dominion Bureau of Statistics. In the case of manufactured fish products, schedules similar to those of other sections of the Census of Industry are sent by the Bureau to the operators of canneries, fish-curing establishments, etc., the fisheries officers assisting in securing expeditions and correct reports.

Section 4.—The Modern Fishing Industry.

The existing fishing industry of Canada is in the main the growth of the past half century. No comparable figures of production are available prior to the Confederation of the provinces, but about 1836 the production of fish in what are now the three Maritime Provinces had an estimated value of something like $1,500,000, while the production of Lower Canada was probably worth $1,000,000. In 1870 the total was $6,500,000 and this was again more than doubled by 1878. In the '90's it passed $20,000,000, and in 1912, $34,000,000. The highest figure was reached in 1918, with over $60,000,000, but this was in a period of greatly inflated prices. Between that year and 1921 the total value of the products of the fisheries decreased, and in the latter year was back to $34,000,000. From 1921 to 1926 a steady increase to $56,000,000 took place and since then the value has fluctuated around the $50,000,000 mark (these figures represent the total values of fish marketed, whether in a fresh, dried, canned, or otherwise prepared state).

The number of employees, which was 87,000 in 1928, decreased to 80,000 in 1929, and the capital invested in the industry, $60,000,000 in 1918 and $62,000,000 in 1929, has shown the same general trend, but with less marked fluctuations, as the value of the products.[1]

Among individual fish products, the cod and the salmon long disputed the primacy; if the record is taken back to early times, the cod is the most valuable fishery; in the past 20 years, however, the salmon has definitely taken the lead, and the heavy pack and high price of lobsters have more than once sent cod down to third place as in 1927 and 1929, while halibut takes fourth place among the chief commercial fishes. These changes have, of course, affected the relative standing of the provinces, British Columbia now occupying the leading place that in earlier times belonged to Nova Scotia, and producing in recent years nearly half the total value. The yearly record of production since 1870, the total production by provinces for the past six years, and the record by principal fish products for the past five years in descending order of importance, are shown in Tables **2**, **3** and **4**. The aggregate value of production in 1929, $53,518,521, shows a decrease of 2·8 p.c. from the figure of $55,050,973 in 1928. The catch was 8·3 p.c. smaller, while average prices were 5·5 p.c. higher, the higher prices of salmon being the predominating factor.

2.—Total Values of the Fisheries of Canada, 1870-1929.

NOTE.—From 1870 to 1906 inclusive, years ended June 30; from 1908 to 1917 (a) inclusive, years ended Mar. 31; since and including 1917 (b), calendar years. No statistics are available for the nine months period ended Mar. 31, 1907.

Year.	Value.	Year.	Value.	Year.	Value.	Year.	Value.
	$		$		$		$
1870	6,577,391	1885	17,722,973	1900	21,557,639	1916	35,860,708
1871	7,573,199	1886	18,679,288	1901	25,737,153	1917 (a)	39,208,378
1872	9,570,116	1887	18,386,103	1902	21,959,433	1917 (b)	52,312,044
1873	10,754,997	1888	17,418,510	1903	23,101,878	1918	60,259,744
1874	11,681,886	1889	17,665,256	1904	23,516,439	1919	56,508,479
1875	10,350,385	1890	17,714,902	1905	29,479,562	1920	49,241,339
1876	11,117,000	1891	18,977,878	1906	26,279,485	1921	34,931,935
1877	12,005,934	1892	18,941,171	1908	25,499,349	1922	41,800,210
1878	13,215,678	1893	20,686,661	1909	25,451,085	1923	42,565,545
1879	13,529,254	1894	20,719,573	1910	29,629,169	1924	44,534,235
1880	14,499,979	1895	20,199,338	1911	29,965,433	1925	47,942,131
1881	15,817,162	1896	20,407,425	1912	34,667,872	1926	56,360,633
1882	16,824,092	1897	22,783,546	1913	33,389,464	1927	49,123,609
1883	16,958,192	1898	19,667,121	1914	33,207,748	1928	55,050,973
1884	17,766,404	1899	21,891,706	1915	31,264,631	1929	53,518,521

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[1] For detailed historical statistics of the fisheries, see pp. 53-56 of Fisheries Statistics of Canada, 1929, obtainable from the Dominion Statistician.

3.—Total Values of Fisheries, by Provinces, in the calendar years 1924-1929.

Province.	1924.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$	$
Prince Edward Island	1,201,772	1,598,119	1,358,934	1,367,807	1,196,681	1,297,125
Nova Scotia	8,777,251	10,213,779	12,505,922	10,783,631	11,681,995	11,427,491
New Brunswick	5,383,809	4,798,589	5,325,478	4,406,673	5,001,641	5,935,635
Quebec	2,283,314	3,044,919	3,110,964	2,736,450	2,996,614	2,933,339
Ontario	3,557,587	3,436,412	3,152,193	3,670,229	4,030,753	3,919,144
Manitoba	1,232,563	1,466,939	2,328,803	2,039,738	2,240,314	2,745,205
Saskatchewan	482,492	494,882	444,288	503,609	563,533	572,871
Alberta	339,107	458,504	749,076	712,469	725,050	732,214
British Columbia	21,257,567	22,414,618	27,367,109	22,890,913	26,562,727	23,930,692
Yukon	18,773	15,370	17,866	12,090	51,665	24,805
Totals	**44,534,235**	**47,942,131**	**56,360,633**	**49,123,609**	**55,050,973**	**53,518,521**

4.—Quantities[1] and Values[2] of the Chief Commercial Fishes, calendar years 1925 to 1929.

Kind of Fish.	1925.	1926.	1927.	1928.	1929.	Increase or Decrease 1929 Compared with 1928.
Salmon........ cwt.	1,933,260	2,180,470	1,541,447	2,286,151	1,550,780	− 735,371
$	15,760,630	19,607,082	15,065,063	17,867,053	15,008,825	− 2,858,228
Lobsters........ cwt.	340,838	339,583	316,831	322,437	372,820	+ 50,383
$	5,552,977	5,883,672	5,426,176	5,183,988	5,696,542	+ 512,554
Cod........ cwt.	2,309,000	2,733,864	1,978,803	2,150,078	1,979,440	− 170,638
$	6,232,821	6,995,283	4,881,980	6,285,777	5,394,636	− 891,144
Halibut........ cwt.	340,007	339,918	299,854	329,923	335,824	+ 5,901
$	4,185,391	4,935,472	3,945,312	3,812,321	4,832,296	+ 1,019,975
Herring........ cwt.	2,413,973	2,423,457	2,724,113	2,396,054	2,317,806	− 78,248
$	3,117,841	3,238,919	3,358,098	3,104,911	3,186,669	+ 81,758
Whitefish........ cwt.	186,648	190,644	185,664	180,695	196,386	+ 15,691
$	1,990,108	2,167,865	2,192,738	2,192,567	2,453,703	+ 261,136
Pilchards........ cwt.	318,973	969,958	1,368,582	1,610,252	1,726,851	+ 116,599
$	182,911	1,256,721	1,838,867	2,563,137	2,199,834	− 363,303
Haddock........ cwt.	344,386	496,802	421,709	481,708	545,400	+ 63,692
$	1,171,555	1,754,846	1,483,844	1,733,781	1,951,642	+ 217,861
Sardines........ bbl.	158,533	173,166	174,695	285,990	249,194	− 36,796
$	1,017,206	1,175,268	1,046,575	1,291,722	1,626,764	+ 335,042
Pickerel or doré..... cwt.	86,877	126,086	140,019	142,610	128,500	− 14,110
$	1,056,169	1,385,856	1,347,589	1,616,442	1,453,847	− 162,595
Trout........ cwt.	81,292	78,710	92,007	91,694	90,854	− 840
$	1,097,728	1,051,196	1,397,294	1,347,779	1,324,775	− 23,004
Smelts........ cwt.	76,795	92,311	82,762	91,877	83,984	− 7,893
$	1,035,504	1,174,185	1,117,330	1,241,452	1,190,908	− 50,544
Tullibee........ cwt.	61,804	101,525	121,764	104,145	97,669	− 6,476
$	290,754	645,945	633,150	612,931	687,731	+ 74,800

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[1] Caught and landed. [2] Marketed.

4.—Quantities[1] and Values[2] of the Chief Commercial Fishes, calendar years 1925 to 1929—concluded.

Kind of Fish.		1925.	1926.	1927.	1928.	1929.	Increase or Decrease 1929 Compared with 1928.
Perch..............	cwt.	27,532	30,498	34,573	53,176	67,055	+ 13,879
	$	180,497	230,155	272,687	763,315	616,722	– 146,593
Mackerel...........	cwt.	187,661	115,487	158,797	123,768	152,756	+ 28,988
	$	663,628	443,155	582,705	528,267	536,021	+ 7,754
Hake and cusk......	cwt.	174,136	151,051	177,370	253,244	339,217	+ 85,973
	$	295,720	203,502	232,404	368,237	517,311	+ 149,074
Ling cod[3]...........	cwt.	–	–	49,916	50,772	48,489	– 2,283
	$	–	–	401,259	366,101	415,776	+ 49,675
Pike................	cwt.	54,217	72,520	70,473	62,701	82,546	+ 19,845
	$	278,369	407,181	356,992	362,922	409,970	+ 47,048
Clams and quahaugs	bbl.	54,986	54,230	57,712	63,320	67,739	+ 4,419
	$	290,063	268,887	274,287	322,874	346,772	+ 23,898
Pickerel, blue......	cwt.	34,453	30,385	31,173	21,496	25,831	+ 4,335
	$	275,624	182,310	187,038	257,952	333,220	+ 75,268
Oysters.............	bbl.	21,428	22,255	21,650	21,493	24,959	+ 3,466
	$	185,353	209,378	197,781	214,180	226,876	+ 12,696
Goldeyes...........	cwt.	7,263	11,685	11,485	10,713	11,151	+ 438
	$	70,776	85,791	115,970	115,956	191,793	+ 75,837
Eels................	cwt.	15,675	24,466	15,926	25,661	14,539	– 11,122
	$	146,062	231,559	139,932	227,751	133,542	– 94,209
Sturgeon............	cwt.	6,243	5,198	4,788	4,866	5,143	+ 277
	$	201,227	159,438	143,720	141,009	132,530	– 8,479
Alewives............	cwt.	57,465	72,237	54,775	36,252	67,968	+ 31,716
	$	104,834	149,619	86,608	57,729	123,508	+ 65,779
Black cod...........	cwt.	14,956	10,358	16,430	13,388	15,308	+ 1,920
	$	114,315	89,371	123,421	101,452	118,362	+ 16,910
Scallops.............	bbl.	17,718	23,200	38,635	26,304	17,921	– 8,383
	$	97,751	151,926	217,932	164,607	116,961	– 47,646
Tom cod............	cwt.	16,629	20,239	22,794	19,613	28,107	+ 8,494
	$	48,705	66,889	97,595	70,191	100,993	+ 30,802

[1] Caught and landed. [2] Marketed. [3] Included with cod prior to 1927.

Operations in 1929.—Detailed Record of Production.—The total value of the products of the Canadian fishing industry in the calendar year 1929 was $53,518,521, as compared with $55,050,973 in 1928, $49,123,609 in 1927, $56,360,633 in 1926, $47,942,131 in 1925, $44,534,235 in 1924 and $42,565,545 in 1923. In Tables **5** and **6** will be found a statement for the whole of Canada of each fish and fish product marketed in 1929, with comparative figures for the preceding year—Table **5** dealing with sea fish and Table **6** with products of the inland fisheries. In Table **7** an analysis is made of the change in the value of each product from the preceding year due to variations in price and quantity respectively. On the whole, prices were higher in 1929. In Tables **8** and **9** the numbers of the fish-canning and curing establishments are shown, together with the materials used and values of the products.

5.—Quantities and Values of Sea Fish and Products Marketed during the calendar years 1928 and 1929.

Kind of Fish or Product.		1928.		1929.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Cod, used fresh	cwt.	127,041	487,180	109,364	401,964
" fresh fillets	"	21,104	245,815	16,187	193,335
" green-salted	"	124,544	561,796	138,929	605,292
" smoked fillets	"	55,629	672,165	46,565	599,231
" smoked	"	404	3,232	392	3,166
" dried	"	466,774	3,699,963	424,087	3,057,839
" boneless	"	34,558	400,527	31,766	339,766
" canned	cases	2,271	18,400	3,992	33,787
" -liver oil, medicinal	gal.	125,724	114,178	91,022	83,167
" oil	"	178,561	82,521	169,714	77,089
Haddock, used fresh	cwt.	168,421	613,248	147,761	572,743
" fresh fillets	"	37,001	440,041	53,739	656,061
" canned	cases	9,664	69,734	11,996	89,672
" smoked	cwt.	42,235	357,967	38,033	332,772
" smoked fillets	"	9,981	124,980	10,400	132,119
" green-salted	"	6,592	16,624	17,210	52,997
" dried	"	19,851	99,205	24,769	108,602
" boneless	"	1,159	11,982	735	6,676
Hake and cusk, used fresh	"	18,923	24,470	9,707	15,410
" fresh fillets	"	1,356	12,830	3,498	30,698
" green-salted	"	52,728	112,906	62,661	133,880
" smoked fillets	"	3,078	33,286	9,156	88,776
" dried	"	36,199	170,341	53,413	234,732
" boneless	"	1,709	14,404	1,809	13,815
Pollock, used fresh	"	5,303	12,090	2,881	7,265
" fresh fillets	"	–	–	97	1,170
" green-salted	"	10,656	28,574	4,823	12,280
" dried	"	14,432	66,607	13,395	64,252
Whiting, used fresh	"	18	128	12	69
Catfish, fresh	"	1,272	3,816	781	2,411
Halibut, used fresh	"	329,836	3,811,647	334,868	4,825,560
" smoked	"	7	147	412	3,890
" canned	cases	47	527	301	2,846
Flounders, brill, plaice, etc., used fresh	cwt.	7,606	34,136	9,951	44,980
Skate, used fresh	"	3,594	11,711	2,926	9,810
Soles, used fresh	"	19,226	90,556	15,540	80,894
" fresh fillets	"	282	5,584	801	13,678
Herring, used fresh	"	149,674	291,475	185,397	290,821
" boneless	"	355	3,627	1,380	12,504
" canned	cases	4,099	16,807	2,207	8,853
" smoked	cwt.	72,351	314,100	106,948	447,762
" dry-salted	"	1,072,188	1,489,501	923,848	1,248,832
" pickled	brl.	18,377	124,319	37,597	232,779
" used as bait	"	199,676	430,774	203,476	440,266
" fertilizer	"	87,840	69,487	82,541	87,045
" oil	gal.	101,502	34,012	100,284	32,088
" meal	ton	1,564	76,651	1,138	53,195
" scales	cwt.	3,498	19,031	2,236	7,820
Mackerel, used fresh	"	60,654	283,257	44,913	181,514
" canned	cases	336	1,955	455	2,103
" smoked	cwt.	43	430	24	240
" salted	brl.	20,921	242,625	36,699	352,111
" used as bait	"	–	–	15	53
Sardines, canned	cases	257,881	1,032,874	329,204	1,319,584
" sold fresh and salted	brl.	221,316	258,848	177,068	307,180
Pilchards, used fresh	cwt.	118	1,062	6	18
" smoked	"	–	–	20	140
" canned	cases	65,097	314,457	98,821	411,011
" used as bait	brl.	2,149	5,175	1,538	3,634
" oil	gal.	3,995,806	1,474,512	2,856,579	1,128,164
" meal	ton	14,500	767,049	15,826	656,867
Alewives, used fresh	cwt.	8,972	15,143	14,428	30,594
" salted	brl.	7,905	35,869	17,672	85,869
" smoked	cwt.	1,510	5,073	1,303	4,950
" used as bait	brl.	–	–	230	525
Bass, used fresh	cwt.	281	4,284	179	3,022
Perch, used fresh	"	1,425	12,389	2,228	21,811
Salmon, used fresh	"	277,821	2,690,685	239,745	2,465,334
" canned	cases	2,036,329	13,776,092	1,399,541	11,625,831
" smoked	cwt.	586	8,819	464	6,725
" dry-salted	"	170,553	678,659	77,362	355,740
" mild cured	"	21,467	505,301	22,246	511,590
" pickled	"	11,240	158,485	750	8,371
" used as bait	"	158	801	542	2,309
" roe	"	3,061	10,425	70	210

5.—Quantities and Values of Sea Fish and Products Marketed during the calendar years 1928 and 1929 —concluded.

Kind of Fish or Product.		1928.		1929.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Shad, used fresh	cwt.	7,452	66,692	6,329	50,933
" salted	brl.	42	1,350	20	500
Smelts, used fresh	cwt.	83.103	1,172,748	75,330	1,122,897
Sturgeon, used fresh	"	305	6,640	334	7,445
Trout, used fresh	"	1,507	27,730	198	3,917
" canned	cases	104	803	–	–
" pickled	cwt.	16	96	–	–
Black cod, used fresh	"	4,727	33,250	5,911	44,675
" green-salted	"	72	1,326	22	286
" smoked	"	4,241	66,750	4,677	73,401
Ling cod, used fresh	"	50,268	363,992	48,351	414,916
" smoked	"	178	1,420	69	860
Red cod, used fresh	"	4,129	20,960	5,210	28,821
" smoked	"	–	–	7	63
Albacore, used fresh	"	1,629	13,249	2,058	27,089
Caplin, used fresh	brl.	4,864	6,361	2,429	4,600
Eels, used fresh	cwt.	2,421	27,730	1,882	18,186
Octopus, used fresh	"	553	2,921	283	2,264
Oulachons, used fresh	"	413	2,349	370	1,833
Squid, used as bait	brl.	4,573	11,238	5,297	26,258
Swordfish, used fresh	cwt.	8,088	132,345	6,336	98,241
Tom cod, used fresh	"	19,613	70,191	28,107	100,993
Mixed fish, used fresh	"	8,715	42,843	8,257	40,874
Clams and quahaugs, used fresh	brl.	20.281	60,539	13,345	42,222
" " canned	cases	43,090	262,335	54,289	304,550
Abalone, canned	"	578	5,780	–	–
Cockles, used fresh	cwt.	209	1,083	350	936
Crabs, used fresh	"	5,928	34,018	5,571	30,193
" canned	cases	52	1,248	671	15,421
Lobsters, in shell	cwt.	97,906	2,215,352	110,374	2,397,383
" meat	"	332	25,820	915	69,233
" canned	cases	111,986	2,883,922	127,516	3,179,022
" tomalley	"	4,867	58,894	4,516	50,904
Oysters, used fresh	brl.	21,493	214,180	24,959	226,876
Scallops, shelled	gal.	52,139	163,417	34,532	113,163
" canned	cases	119	1,190	422	3,798
Shrimps, used fresh	cwt.	1,202	14,280	1,293	26,579
Winkles, used fresh	"	1,298	3,701	276	744
Dulse, dried	"	388	4,579	1,124	10.620
Tongues and sounds, pickled or dried	"	1,111	4,748	1,514	8,316
Seal skins, fur	No.	2,090	23,092	3,347	33,272
" hair	"	8,258	32,962	23,866	56,222
Porpoise skins	"	3	36	26	104
Whalebone and meal	ton	376	12,784	416	13,728
Whale fertilizer	"	754	45,240	779	45,635
Seal oil	gal.	8,015	3,096	43,176	34,989
Porpoise oil	"	142	57	800	400
Whale oil	"	571,914	260,592	712,597	327,686
Fish oil	"	465,501	152,382	532,144	161,324
Fish glue	"	15,348	11,584	7,653	4,592
Fish meal	ton	6,858	380,273	5,382	289,184
Fish fertilizer	"	881	28,121	2,671	58,020
Fish skins and bones	cwt.	13,087	23,129	17,438	27,502
Fish offal	ton	12,240	45,649	12,006	35,919
Other products		–	11,991	–	10,994
Totals		–	**46,669,222**	–	**44,928,742**

6.—Quantities and Values of Inland Fish Marketed during the calendar years 1928 and 1929.

Kind of Fish or Product.		1928.		1929.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Alewives, fresh	cwt.	284	852	235	655
" salted	brl.	88	792	105	915
Bass, fresh	cwt.	698	9,593	713	11,324
Carp, fresh	"	13,497	92,754	13,451	86,123
Catfish, fresh	"	8,935	84,733	8,765	74.580
Eels, fresh	"	23,240	200,021	12,657	115,356
Goldeyes, fresh	"	71	832	2,589	17,559
" smoked	"	6,552	115,124	5,137	174,234

6.—Quantities and Values of Inland Fish Marketed during the calendar years 1928 and 1929—concluded.

Kind of Fish or Product.		1928.		1929.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Herring, fresh	cwt.	59,993	235,127	54,562	324,704
Maskinonge, fresh	"	93	2,369	104	2,810
Mixed fish, fresh	"	49,281	205,539	44,428	177,908
Mullets, fresh	"	16,065	37,557	19,926	43,904
Perch, fresh	"	51,751	750,926	64,827	594,911
Pickerel or doré, fresh	"	142,610	1,616,442	128,500	1,453,847
Pickerel, blue, fresh	"	21,496	257,952	25,831	333,220
Pike, fresh	"	62,701	362,922	82,546	409,970
Salmon, fresh	"	1,981	37,786	1,455	32,715
Saugers, fresh	"	4,104	28,795	8,181	63,478
Shad, fresh	"	1,635	13,914	1,818	16,178
Smelts, fresh	"	8,774	68,704	8,654	68,011
Sturgeon, fresh	"	4,561	129,658	4,809	121,330
" caviar	lb.	4,711	4,711	3,755	3,755
Trout, fresh	cwt.	90,075	1,319,150	90,656	1,320,858
Tullibee, fresh	"	103,715	608,961	97,530	685,407
" smoked	"	268	3,970	87	2,324
Whitefish, fresh	"	180,695	2,192,567	196,386	2,453,703
Totals		-	**8,381,751**	-	**8,589,779**

7.—Yields of the Fisheries of Canada, Compared as to Quantity and Value, for 1928 and 1929. ("000" omitted.)

Kind of Fish or Product.	Actual Value, 1929.	Value at Prices of 1928.	Actual Value, 1928.	Increase (+) or Decrease (−).	Due to Higher (+) or Lower (−) Prices.	Due to Larger (+) or Smaller (−) Quantities.
	$	$	$	$	$	$
Salmon	15,009	12,117	17,867	− 2,858	+ 2,892	− 5,750
Lobsters	5,697	5,993	5,184	+ 513	− 296	+ 809
Cod	5,395	5,786	6,286	− 891	− 391	− 500
Halibut	4,832	3,879	3,812	+ 1,020	+ 953	+ 67
Herring	3,187	3,004	3,105	+ 82	+ 183	− 101
Whitefish	2,454	2,382	2,193	+ 261	+ 72	+ 189
Pilchards	2,200	2,750	2,563	− 363	− 550	+ 187
Haddock	1,952	1,964	1,734	+ 218	− 12	+ 230
Sardines	1,627	1,126	1,292	+ 335	+ 501	− 166
Pickerel or doré	1,454	1,456	1,616	− 162	− 2	− 160
Trout	1,325	1,335	1,348	− 23	− 10	− 13
Smelts	1,191	1,135	1,241	− 50	+ 56	− 106
Tullibee	688	574	613	+ 75	+ 114	− 39
Perch	617	963	763	− 146	− 346	+ 200
Mackerel	536	652	528	+ 8	− 116	+ 124
Hake and cusk	517	493	368	+ 149	+ 24	+ 125
Ling cod	416	350	366	+ 50	+ 66	− 16
Pike	410	478	363	+ 47	− 68	+ 115
Clams and quahaugs	347	345	323	+ 24	+ 2	+ 22
Pickerel, blue	333	310	258	+ 75	+ 23	+ 52
Oysters	227	249	214	+ 13	− 22	+ 35
Goldeyes	192	121	116	+ 76	+ 71	+ 5
Eels	134	129	228	− 94	+ 5	− 99
Sturgeon	133	149	141	− 8	− 16	+ 8
Alewives	124	108	58	+ 66	+ 16	+ 50
Black cod	118	116	101	+ 17	+ 2	+ 15
Scallops	117	112	165	− 48	+ 5	− 53
Tom cod	101	101	70	+ 31	-	+ 31
Sword fish	98	104	132	− 34	− 6	− 28
Soles	95	86	96	− 1	+ 9	− 10
Carp	86	92	93	− 7	− 6	− 1
Pollock	85	90	108	− 23	− 5	− 18
Catfish	77	83	89	− 12	− 6	− 6
Whales	387	425	319	+ 68	− 38	+ 106
Seals	124	157	59	+ 65	− 33	+ 98
Other products of the fisheries	1,234	1,257	1,239	− 5	− 23	+ 18
Totals	**53,519**	**50,471**	**55,051**	− **1,532**	+ **3,048**	− **4,580**
				p.c.	p.c.	p.c.
Increase or decrease	-	-	-	− 2·8	+ 5·5	− 8·3

8.—Number of Fish-Canning and Curing Establishments, by Provinces, 1928 and 1929.

Classification.	P.E.I.	N.S.	N.B.	Que.	B.C.	Total for Canada.
1928.						
Lobster canneries	103	112	99	61	–	375
Salmon canneries	–	–	–	6	61	67
Clam canneries	3	8	9	–	2	22
Sardine and other fish canneries	–	3	2	–	–	5
Fish-curing establishments	2	88	37	31	46	204
Reduction plants	–	8	5	–	27	40
Totals	**108**	**219**	**152**	**98**	**136**	**713**
1929.						
Lobster canneries	88	114	96	56	–	354
Salmon canneries	–	1	–	–	63	64
Clam canneries	7	7	8	–	1	23
Sardine and other fish canneries	–	4	4	–	–	8
Fish-curing establishments	5	107	43	37	50	242
Reduction plants	–	9	4	1	25	39
Totals	**100**	**242**	**155**	**94**	**139**	**730**

9.—Materials Used and Value of Products of Fish-Canning and Curing Establishments, 1925-1929.

Material and Product.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$
Materials used—					
Fish	13,953,645	16,692,352	14,379,521	15,617,194	17,061,702
Salt	389,054	356,267	360,056	444,471	413,722
Containers	3,878,633	4,652,025	3,290,932	4,144,425	3,802,791
Other	459,354	333,485	334,337	372,677	218,644
Totals	**18,680,686**	**22,034,129**	**18,364,846**	**20,578,767**	**21,496,859**
Products—					
Fish marketed for consumption, fresh	6,489,183	7,348,820	7,123,490	8,275,669	9,057,253
Fish canned, cured or otherwise prepared	23,891,809	28,841,944	23,961,119	27,992,063	25,909,007
Totals	**30,380,992**	**36,190,764**	**31,084,609**	**36,267,732**	**34,966,260**

Capital and Employees.—In 1929, capital investments in the fisheries were as follows:—(a) in vessels, boats, nets, weirs, traps, wharves, ice-houses, etc., used in the primary operations of capturing the fish, $33,935,002, of which $28,162,312 was invested in the sea fisheries and $5,772,690 in the inland fisheries; (b) in fish-canning and curing establishments (land, buildings, machinery, supplies on hand, cash and operating accounts), $28,644,442—grand total $62,579,444. The number of employees engaged in the primary operations of fishing was 64,083 in 1929, and in canning and curing establishments, 16,367, a total of 80,450. The total salaries and wages bill in canneries and fish-curing establishments was $5,411,855. Tables **10** and **11**, herewith, show the items included in the above totals, with comparative figures for 1928, while Table **12** analyses the salaries, wages and earnings of the employees in canneries, etc.

10.—Number and Capital Value of Fishing Vessels, Boats, Nets, Traps, etc., Used in the Fisheries of Canada, 1928 and 1929.

Equipment.	1928.		1929.	
	Number.	Value.	Number.	Value.
		$		$
Sea Fisheries—				
Steam trawlers	11	743,000	10	640,000
Steam fishing vessels	9	164,500	12	216,500
Sailing and gasolene vessels	1,422	7,707,251	1,309	8,048,609
Boats (sail and row)	14,877	587,472	15,985	593,427
Boats (gasolene)	15,136	6,004,131	16,498	6,965,284
Carrying smacks and scows	407	579,515	405	570,254
Gill nets	67,139	1,231,711	72,273	1,740,885
Salmon drift nets	11,349	1,444,019	8,877	898,011
Salmon drag nets	21	5,500	14	4,450
Salmon trap nets	136	39,500	259	72,800
Trap nets, other	855	449,495	1,042	575,260
Dip nets	602	1,861	219	1,095
Smelt nets	15,294	591,458	18,581	664,130
Pound nets	65	13,000	76	15,200
Weirs	446	429,155	422	404,145
Weir seines	19	3,800	23	4,600
Salmon purse seines	354	512,244	485	865,035
Seines, other	1,913	449,242	3,225	656,810
Weir drivers	82	17,100	15	17,100
Tubs of trawl	18,557	326,691	21,655	351,724
Hand lines	65,303	155,693	59,028	147,250
Crab traps	6,551	21,583	7,245	26,432
Eel traps	418	1,032	413	895
Lobster traps	1,586,576	2,050,207	1,618,779	2,125,283
Lobster pounds	44	39,570	58	58,540
Oyster rakes	1,365	5,207	1,543	6,025
Scallop drags	418	10,130	331	10,110
Quahaug rakes	329	682	289	680
Oyster plant and equipment	1	26,000	1	26,032
Fishing piers and wharves	2,060	825,365	1,836	732,235
Freezers and ice-houses	494	342,275	551	782,526
Small fish and smoke-houses	6,049	920,539	6,934	940,985
Total Values, Sea Fisheries	–	**25,698,928**	–	**28,162,312**
Inland Fisheries—				
Steam vessels or tugs	135	1,037,684	139	1,115,375
Boats (sail and row)	3,860	176,471	3,853	167,501
Boats (gasolene)	1,557	906,516	1,533	925,656
Scows	7	23,500	11	45,100
Gill nets	–	1,606,105	–	1,802,783
Seines	160	22,851	151	22,557
Pound nets	1,225	672,780	1,263	650,160
Hoop nets	921	29,602	932	31,565
Dip or roll nets	80	978	123	1,585
Lines	2,573	43,800	3,017	19,690
Weirs	1,624	129,789	1,432	118,696
Eel traps	110	320	90	240
Fish wheels	6	900	8	1,200
Spears	88	1,134	75	526
Fishing piers and wharves	467	183,760	463	236,015
Freezers and ice-houses	1,005	545,058	826	524,715
Small fish and smoke-houses	331	50,912	292	109,326
Total Values, Inland Fisheries	–	**5,432,160**	–	**5,772,690**
Fish-Canning and Curing Establishments[1]—				
Lobster canneries	375	1,358,269	354	1,265,183
Salmon canneries	67	12,477,218	64	15,103,888
Clam canneries	22	271,831	23	117,352
Sardine and other fish canneries	5	1,262,229	8	1,383,202
Fish-curing establishments	204	7,520,353	242	7,685,638
Reduction plants	40	4,051,383	39	3,089,179
Totals of Fish-Canning and Curing Establishments	**713**	**26,941,283**	**730**	**28,644,442**
Grand Totals, Capital Invested in Fisheries	–	**58,072,371**	–	**62,579,444**

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[1] Comprises value of land, buildings, and machinery, products and supplies on hand, and cash and operating accounts.

11.—Number of Persons Employed in the Fisheries of Canada, 1927-1929.

Employed in—	Sea Fisheries. 1927.	Sea Fisheries. 1928.	Sea Fisheries. 1929.	Inland Fisheries. 1927.	Inland Fisheries. 1928.	Inland Fisheries. 1929.
	No.	No.	No.	No.	No.	No.
Steam trawlers	311	226	182	-	-	-
Vessels	7,808	7,567	7,070	732	767	727
Boats	39,672	38,061	40,101	8,320	8,166	7,576
Carrying smacks	804	536	540	4	21	30
Fishing, not in boats	1,743	2,972	2,821	4,021	4,469	5,036
Totals	**50,338**	**49,362**	**50,714**	**13,077**	**13,423**	**13,369**

Employed in—	Fish-Canning and Curing Establishments. 1928. Male.	1928. Female.	1928. Total.	1929. Male.	1929. Female.	1929. Total.
	No.	No.	No.	No.	No.	No.
Lobster canneries	2,614	3,197	5,811	2,596	3,274	5,870
Salmon canneries	3,307	1,872	5,179	3,521	2,296	5,817
Clam canneries	103	326	429	100	171	271
Sardine and other fish canneries	275	143	418	283	201	484
Fish-curing establishments	2,566	229	2,795	2,859	325	3,184
Reduction plants	765	37	802	717	24	741
Totals	**9,630**	**5,804**	**15,434**	**10,076**	**6,291**	**16,367**
Grand Totals, All Fisheries	**72,415**	**5,804**	**78,219**	**74,159**	**6,291**	**80,450**

12.—Employees and Salaries and Wages in Fish-Canning and Curing Establishments, 1920-1929.

Year.	On Salaries.		On Wages.		Contract and Piece-Workers.		Totals.	
	No.	$	No.	$	No.	$	No.	$
1920	651	759,176	13,137	3,180,701	4,711	916,413	18,499	4,856,290
1921	487	551,330	10,534	2,023,040	3,083	399,016	14,104	2,973,386
1922	614	682,535	11,848	2,358,780	4,115	600,415	16,577	3,641,730
1923	585	681,101	11,265	2,443,971	3,597	644,842	15,447	3,769,914
1924	574	755,631	10,583	2,588,717	4,379	890,413	15,536	4,234,761
1925	632	806,418	10,687	3,166,045	4,953	998,704	16,272	4,971,167
1926	546	733,760	11,579	3,807,533	5,283	1,081,544	17,408	5,622,837
1927	639	871,211	11,343	3,769,791	4,715	732,949	16,697	5,373,951
1928	630	853,800	10,579	3,539,070	4,225	868,226	15,434	5,261,096
1929	660	951,669	11,122	3,668,802	4,585	791,384	16,367	5,411,855

Trade.—For reasons already noted, the domestic consumption of fish is relatively small in Canada, and the trade depends largely upon foreign markets. Perhaps 60 p.c. of the annual catch is an average export. In the fiscal year 1930 fish worth $14,928,048 went to the United States and $4,107,761 to the United Kingdom. The most important single export is canned salmon (to Great Britain and European markets), followed closely by cod, dry-salted (to the West Indies, South America, etc.). For fresh fish, especially whitefish and lobsters, the United States is the chief market. Canadian imports of fish in 1930 amounted to $4,120,306. A general review of the import and export trade in fish for 29 years past is given in Table **13**, whilst Table **14** gives a comparative record of exports by countries during 1929 and 1930. Table **15** shows the leading items of export for the calendar years 1927-29. For a complete analysis of imports and exports, as well as of production, see the annual report "Fisheries Statistics", issued by the Dominion Bureau of Statistics.

13.—Value of Exports and Imports of Fish and Fish Products, fiscal years 1902-1930.

Note.—In this table "Exports" include seal skins and fish oils, and "Imports" include turtles, whalebone, shells, mother of pearl, seal skins, fish oils and ambergris, in addition to Fishery Products as shown in Tables 12 and 13 of the External Trade section of this volume.

Year.	Exports, Fisheries, Domestic.	Imports of Fish for Home Consumption.		Year.	Exports, Fisheries, Domestic.	Imports of Fish for Home Consumption.	
		Dutiable.	Free.			Dutiable.	Free.
	$	$	$		$	$	$
1902	14,143,294	620,706	525,459	1916	22,377,977	895,371	695,702
1903	11,800,184	659,717	743,703	1917	24,889,253	1,347,511	1,128,768
1904	10,759,029	734,800	850,945	1918	32,602,151	1,039,585	1,884,041
1905	11,114,318	752,558	751,402	1919	37,137,072	1,054,848	2,128,970
1906	16,025,840	814,540	1,234,563	1920	42,227,996	2,605,379	1,446,493
1907[1]	10,362,142	735,045	924,046	1921	33,615,119	2,416,152	1,876,303
1908	13,867,367	838,037	1,103,649	1922	29,578,392	2,172,850	996,763
1909	13,319,664	784,176	925,173	1923	27,816,935	2,066,300	899,531
1910	15,663,162	952,522	820,183	1924	30,925,769	1,878,336	648,696
1911	15,675,544	1,175,072	820,019	1925	33,967,009	2,064,222	997,059
1912	16,704,678	1,261,096	1,148,522	1926	37,487,517	1,949,269	641,240
1913	16,336,721	1,608,663	910,923	1927	36,365,454	2,347,890	909,188
1914	20,623,560	1,558,663	773,109	1928	35,660,287	2,595,591	1,181,067
1915	19,687,068	1,155,186	701,112	1929	37,962,929	2,956,182	1,218,386
				1930	37,185,185	3,020,010	1,100,296

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[1] Nine months.

14.—Exports of the Fisheries, the Produce of Canada, by Principal Countries, in the fiscal years ended Mar. 31, 1929 and 1930.

Exports to—	1929.	1930.	Exports to—	1929.	1930.
British Empire.	$	$	Foreign Countries.	$	$
United Kingdom	3,719,872	4,107,761	Belgium	532,173	484,269
Africa, South, British	174,337	230,938	Brazil	330,849	385,146
Africa, West, British	245,416	112,600	Chile	217,297	142,982
Bermuda	50,672	59,415	China	928,434	1,089,703
British India	55,045	36,934	Cuba	848,661	720,126
Straits Settlements	60,456	51,763	Denmark	87,731	118,221
British Guiana	93,367	130,685	France	2,498,589	1,606,920
Barbados	105,231	142,562	Germany	645,354	632,390
Jamaica	706,075	1,123,462	Italy	1,053,271	1,605,337
Trinidad and Tobago	529,408	539,522	Japan	1,245,721	937,701
Hong Kong	647,794	503,108	Mexico	142,320	89,777
Newfoundland	54,426	143,935	Netherlands	275,316	214,612
Australia	1,986,088	2,327,417	Panama	130,623	75,099
Fiji	71,249	96,483	Portugal	60,176	92,495
New Zealand	560,292	633,457	San Domingo	152,235	105,384
			Sweden	270,290	309,996
			United States	15,513,738	14,928,048
			Porto Rico	897,196	830,708
Totals, British Empire	9,335,744[1]	10,534,480[1]	Totals, Foreign Countries	26,820,325[1]	25,162,547[1]
			Grand Totals, Exports	**37,962,929**[2]	**37,185,185**[2]

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[1] Includes other countries. [2] Grand totals include exports of seal skins and fish oils to the amounts of $1,806,860 in 1929 and $1,488,158 in 1930, not separated by countries.

15.—Exports of the Fisheries of Canada in Quantity and Value for the calendar years 1927-1929.

Classification.	1927.		1928.		1929.	
	Quantity	Value.	Quantity.	Value.	Quantity.	Value.
Fish—		$		$		$
Alewives, salted....cwt.	28,959	91,906	29,224	81,684	30,706	94,875
Bait fish.... ton	1,538	45,521	2,126	45,857	1,714	59,907
Clams, canned....cwt.	9,250	131,432	13,030	182,662	12,994	204,753
Clams, fresh....cwt.	13,622	23,561	13,317	23,858	11,522	24,067
Codfish, boneless, canned or preserved, n.o.p....cwt.	18,376	183,584	22,277	230,502	30,909	315,975
Codfish, dried....cwt.	605,560	4,296,929	594,384	4,953,119	514,998	4,748,472
Codfish, fresh and frozen....cwt.	8,325	60,525	14,986	107,878	12,113	107,253
Codfish, green-salted (pickled)....cwt.	56,508	243,912	81,933	380,016	79,409	369,830
Codfish, smoked....cwt.	22,864	268,133	23,169	284,297	12,950	168,423
Eels, fresh and frozen....cwt.	9,913	127,033	15,971	210,289	10,173	136,987
Haddock, canned....cwt.	1,036	9,910	447	6,333	207	2,837
Haddock, dried....cwt.	27,900	157,380	28,378	180,764	26,023	180,672
Haddock, fresh and frozen....cwt.	2,957	22,489	6,056	44,417	4,649	26,095
Haddock, smoked....cwt.	13,775	123,582	12,858	114,626	15,476	160,005
Halibut, fresh and frozen....cwt.	31,520	445,319	43,685	508,293	48,514	667,543
Herrings, lake, fresh and frozen....cwt.	28,620	477,046	20,003	362,661	17,113	195,054
Herrings, sea, canned[1]....cwt.	15,248	142,716	27	206	9	90
Herrings, sea, dry, salted....cwt.	1,116,936	2,199,440	1,169,805	2,023,664	1,090,267	1,948,725
Herrings, sea, fresh and frozen....cwt.	263,823	215,280	365,407	272,077	291,446	234,979
Herrings, sea, pickled....cwt.	54,494	177,741	61,865	170,251	46,351	177,906
Herring, sea, smoked....cwt.	95,297	299,922	73,416	292,390	80,849	328,905
Lobsters, canned....cwt.	46,547	3,236,281	48,115	3,107,292	50,385	3,113,631
Lobsters, fresh....cwt.	46,627	1,485,392	50,501	1,514,719	80,195	2,266,008
Mackerel, fresh and frozen....cwt.	20,038	152,634	19,697	148,153	18,076	124,111
Mackerel, pickled....cwt.	43,334	298,439	66,167	384,278	73,033	462,424
Oysters, fresh....cwt.	1,566	11,445	3,336	24,866	6,383	60,088
Pilchards, canned....cwt.	13,903	128,040	24,178	221,557	18,361	173,621
Pollock, hake and cusk, boneless, canned or preserved, n.o.p....cwt.	344	1,838	301	2,375	254	1,716
Pollock, hake and cusk, dried....cwt.	43,397	235,591	43,738	264,826	61,223	382,269
Pollock, hake and cusk, fresh and frozen....cwt.	821	2,100	1,084	4,075	967	4,314
Pollock, hake and cusk, green-salted....cwt.	9,162	19,792	30,080	61,298	24,325	50,498
Pollock, hake and cusk, smoked..cwt.	70	913	225	2,925	100	1,000
Salmon, canned....cwt.	549,235	8,930,709	643,399	9,227,442	605,053	8,865,089
Salmon, dry salted (chum)....cwt.	96,083	361,332	209,060	756,957	89,963	315,341
Salmon, fresh and frozen....cwt.	78,218	982,992	83,653	1,035,711	69,407	1,119,617
Salmon, pickled....cwt.	24,326	528,158	23,974	535,903	22,817	536,691
Salmon, smoked....cwt.	90	1,881	794	10,356	957	11,817
Salmon trout or lake trout, fresh and frozen....cwt.	46,578	515,833	46,955	554,562	44,984	523,319
Sardines (little fish in oil)[2]....cwt.	43,180	396,331	55,036	536,833	57,556	578,015
Shell fish, other, fresh....cwt.	8,134	153,709	5,655	93,940	3,591	56,394
Smelts, fresh and frozen....cwt.	61,574	876,635	81,161	1,165,640	67,583	989,916
Sturgeon, fresh and frozen....cwt.	2,898	132,682	2,295	101,663	1,871	65,522
Swordfish, fresh and frozen....cwt.	6,585	102,849	7,310	121,440	5,981	78,093
Tongues and sounds....cwt.	664	3,778	380	2,898	887	9,085
Tullibee, fresh and frozen....cwt.	87,498	465,791	99,662	620,055	87,859	723,022
Whale meat, canned or preserved, n.o.p....cwt.	108	1,080	–	–	523	2,008
Whitefish, fresh and frozen....cwt.	112,810	1,332,346	109,540	1,401,762	114,927	1,518,658
Other fresh water fish, fresh and frozen....cwt.	322,795	2,607,860	309,825	2,563,776	317,365	2,748,526
Other fresh water fish, salted, dried, smoked or pickled....cwt.	10	113	51	493	1,035	4,324
Other sea fish, fresh and frozen....cwt.	7,703	60,679	6,043	47,535	6,547	55,086
Other sea fish, salted, dried, smoked, or pickled....cwt.	1,049	8,769	4,249	16,833	5,311	37,105
Other sea fish, canned or preserved, n.o.p....cwt.	527	7,163	106	1,877	120	1,634
Fishery Products—						
Fish meal[3]....cwt.	–	–	337,013	925,600	324,451	826,260
Fish offal or refuse....cwt.	25,859	62,217	33,499	81,497	29,395	64,772
Oils—						
Cod-liver oil....gal.	243,394	161,809	266,348	216,709	169,457	129,911
Seal oil....gal.	11,801	5,327	1,553	728	37,603	19,920
Whale oil....gal.	280,358	112,964	381,979	160,091	541,585	220,089
Other fish oil....gal.	1,700,958	657,948	3,434,013	1,359,994	2,934,461	1,098,669
Seal skins, undressed....No.	40,151	112,352	8,517	70,487	24,146	108,532
Other articles of the fisheries....	–	915,315	–	273,255	–	45,945
Totals, Fish and Fishery Products....	–	**34,814,448**	–	**38,096,245**	–	**37,546,393**

[1] Includes "Sardines (little fish in oil)" for January, February and March, 1927.
[2] Nine months figures—April 1 to December 31, 1927: see "Herring, sea, canned".
[3] Nine months figures—April 1 to March 31, 1928.

CHAPTER XII.—MINES AND MINERALS.[1]

An article on the general geology of Canada, referring to the chief mineral-bearing areas of the Dominion, will be found at pp. 18-29 of the present edition of the Year Book. This is followed by an account of the chief discoveries and investigations of mineral-bearing ores in 1929, at pp. 29-36; similar articles for earlier years were published in previous editions. These articles furnish references to more detailed sources of information in the publications of the Dominion and Provincial Governments and in the scientific journals.

The Mines and Minerals chapter of the Year Book is divided into six sections:—(1) a sketch of the administration of mineral lands and mining laws, (2) a summary of general production, (3) the industrial organization of the mining industries, (4) production of the metallic minerals, (5) production of the non-metallic minerals, (6) production of clay products and structural materials.

For more detailed information on the mineral production of Canada the reader is referred to the various reports issued by the Mining, Metallurgical and Chemical Branch of the Dominion Bureau of Statistics, which are here briefly described:—

Statistics of Mines and Minerals.—The compilation and publication of statistics of the production of mines and minerals in the Dominion is carried out by the Mining, Metallurgical and Chemical Branch of the Dominion Bureau of Statistics, which works in close co-operation with the Mines Departments of the various Provincial Governments, collecting the data in collaboration with these Departments. Questionnaires sent out to the mining producers are designed to meet the requirements of both the Dominion and the provincial authorities, thus eliminating duplication of labour.

Annual and Monthly Statistical Reports.—Detailed statistics of the mineral production of the Dominion are published annually in a comprehensive report of over 300 pages which includes tables of Dominion-wide production, capital invested in the mining industry, number of employees, salaries and wages, fuel and machinery used in mining, together with tables showing imports and exports of minerals and their products, and a *résumé* of general mining conditions. The latest of these reports available for distribution at the time of writing covers the calendar year 1929, and may be obtained from the Dominion Statistician on request.

A summarized preliminary report on mineral production is also prepared annually for presentation at the annual meeting of the Canadian Institute of Mining and Metallurgy about Mar. 1 of each year, and giving fairly detailed preliminary figures for the preceding calendar year. (The 1930 report is now available.) Further, a bulletin issued each year at the beginning of

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[1] Revised by W. H. Losee, B.Sc., Chief of the Mining, Metallurgical and Chemical Branch, Dominion Bureau of Statistics. A complete list of the publications of this Branch appears in Chapter XXVIII, Section 1, under "Production".

January gives the most accurate estimate then possible for the mineral production of the year just closed. In addition to the above, annual bulletins giving the detailed production of each mineral are issued as soon as the final figures become available in each case.

Monthly statistics of the physical production of 16 of the leading minerals of Canada have been compiled for the past two years and are published in a monthly bulletin. These figures indicate the current trend of activity in mining operations.

Coal Statistics.—In a country like Canada, coal is perhaps the most important of all minerals, from the point of view of the general public. This special position is recognized in the statistics by the publication of an Annual Report on Coal Statistics for Canada, giving complete details of coal-mining operations in the various coal-producing provinces and showing the imports and exports of coal by kinds and by ports of entry and exit, together with industrial statistics in relation to coal mining. Monthly bulletins and Quarterly Reports on Coal and Coke Statistics are also issued, giving coal and coke production and imports and exports, the quarterly printed reports showing in detailed form production of coal by areas, and imports and exports by ports of entry and exit.

Section 1.—Mineral Lands Administration and Mining Laws.

The mineral lands of Canada, like other Crown lands, are administered by either the Dominion or the Provincial Governments. The Dominion Government administers the mineral lands of the Yukon and Northwest Territories as well as those lying within Indian Reserves and National Parks in the Prairie Provinces and British Columbia. Since the transfer of the natural resources to the Prairie Provinces all other mineral lands lying within the boundaries of the several provinces are administered by the respective Provincial Governments.

Subsection 1.—Dominion Mining Laws and Regulations.

Dominion lands to which these regulations apply are those administered by the Department of the Interior, within the Yukon Territory and the Northwest Territories.

Titles issued for Dominion lands, the property of the Dominion Government in the territories of Canada, reserve to the Crown the mines and minerals which may be found on or under such lands, together with the right of operation.

Coal.—The maximum area which may be granted under lease to one applicant is 2,560 acres, and the length of the location must not exceed four times its breadth. Rental is $1 an acre per annum, and royalty on coal disposed of is 5 cents per ton. In unsurveyed territory, the location must be staked by the applicant personally, and personal application must be made to the mining recorder for a lease. Such location must be marked on the ground by two legal posts, one at each end of the longest dimension, and a line must be marked out joining the posts. In surveyed territory, personal application only is necessary. The lease conveys the coal-mining rights only, but surface rights necessary for purposes of operation may be obtained by arbitration in the case of lands already disposed of, or under lease from the Crown if vacant. There is no limit to the area which may be acquired by assignment.

Petroleum and Natural Gas.—The maximum area which may be acquired under application by one applicant is 1,920 acres in the Yukon Territory and 2,560 acres or 4 square miles in the Northwest Territories. No person shall be permitted to acquire a greater area except by assignment. The rental for the first year shall be 50 cents an acre and that for subsequent years $1 per acre. In the Yukon Territory a prospecting permit may be issued for one year to cover a maximum area of 1,920 acres the rental of which shall be 10 cents per acre accompanied by a cash bond at the rate of 40 cents for each acre. The issue of such permit is conditional upon prospecting operations, equivalent to the cash deposit, being conducted on the location during the year. Rental on leases in the Yukon Territory for the second and third years may be satisfied by actual drilling operations also for the fourth and fifth years under specified conditions. In the Northwest Territories a preliminary permit may be obtained to prospect a maximum area of 2,560 acres, rental payable on one-half of the area only. Upon discovery of oil being made, a final lease of one-half of the area required, to be selected by the permittee, will be issued.

Placer.—Claims 500 feet long and from 1,000 to 2,000 feet wide, according to location, may be staked out and acquired by any person more than 17 years of age. Claims to be marked by two legal posts, one at each end, and the line joining them marked. Creek claims are staked along the base line of the creek, and extend 1,000 feet on each side. River claims are 500 feet on one side of the river and extend back 1,000 feet. Other claims are staked parallel to the creek or river on which they front, 500 feet long by 1,000 feet. Expenditure in development of each claim to be incurred and proved each year, $200 in the Yukon Territory and $100 elsewhere. Royalty 2½ p.c.

Alkali.—Deposits comprise natural surface accumulations of soluble mineral salts and associated marls, at or near the surface. Area which may be leased, 1,920 acres. Term of lease, 20 years, renewable. Fee, $10 for the issue of a lease. Rental, 25 cents an acre per annum. The lessee shall expend in actual development or improvements on the property leased not less than $10,000 during the first three years of the term of the lease. Not less than $2,500 shall be so expended during the first and during the second years of the term. Royalty, from 12½ cents to 25 cents a ton of salts shipped.

Carbon-Black.—The recorded owner of a lease of natural gas rights acquired under the regulations may obtain a permit to use the gas for the production of carbon-black, if the location affected is situated in an isolated part of the country where there is no market for the sale of such gas. The permittee must expend $15,000 during each of the first and second years of the term of the permit in the erection and completion of an efficient plant. Gasolene content, if sufficient, must first be extracted. Royalty, 5 p.c. of the value of the gas at the well. Minimum value of such gas, 2 cents per 1,000 cubic feet.

Quarrying.—Dominion lands containing limestone, granite, slate, marble, gypsum, marl, gravel, sand, clay or building stone, may be leased at an annual rental of $1 an acre. The maximum area to one applicant shall be 40 acres. A railway company or municipality, requiring material for construction or maintenance of railway or municipal works, may acquire more than one location. The location must be staked out, if situated in unsurveyed territory.

Dredging.—A dredging lease conveys the exclusive right to sub-aqueous mining and dredging in a specified area of a river bed to be described, the location to be 5 miles or less in the western provinces and territories and 10 miles or less in the Yukon. The term of the lease is 15 years in the Yukon and 20 years elsewhere, renewable. Rental per annum in the Yukon: $100 per mile the first year, and for each subsequent year $10 per mile. Outside the Yukon: $50 per mile the first year, and $10 for each subsequent year. Royalty, 2½ p.c. in the Yukon, and elsewhere 2½ p.c. on the value of products exceeding $10,000. Dredge to be installed within three years from the date of the lease in the Yukon, and within one year from such date elsewhere. Outside the Yukon, expenditures in prospecting and development work may be accepted in satisfaction of rental for a limited term of years, and, for this purpose, operations may be consolidated over an unbroken extent of a river not exceeding 15 miles.

Quartz.—"Mineral" under this heading means all deposits of gold, silver, and all naturally occurring useful minerals other than placer deposits, peat, coal, petroleum, natural gas, bitumen and oil shales.

Under the new regulations, effective April 1, 1929, any prospector or locator of a mineral claim, whether an individual, mining partnership or a company, must first be the holder of a miner's licence, the fee for which is $5 for an individual, from $5 to $20 for mining partnerships, and larger amounts for mining companies proportionate to their capitalization. A licensee may stake out three claims per annum for himself, and six more for two other licensees, not exceeding nine in all, in any mining division, or double these numbers in the Northwest Territories. A mineral claim shall be rectangular and marked by a post at each corner—maximum area 51·65 acres, being 1,500 feet square. Entry is granted by mining recorder, fee $5 for a claim located by a licensee on his own licence, and $10 if located on behalf of another licensee. Grant is renewable from year to year on 40 days' work being done on the location each year. All work done is subject to inspection. When 200 days' work has been done and confirmed, discovery of mineral in place shown to have been made, a survey made by a Dominion land surveyor at grantee's expense and certain other requirements complied with, a lease is issued for a term of 21 years, renewable, the rental for the full term being $50. The cost of the survey, reckoned as 30 days' (and in the Northwest Territories 40 days') work, may be counted as work done on the claim. A maximum of nine claims may be grouped for purposes of representation work. When the profits of a mine exceed $10,000 in any calendar year, there is a royalty of from 3 to 6 p.c. or higher, proportionate to the profits made.

For copies of any of the regulations above referred to, application may be made to the Supervisory Mining Engineer, Territorial Mining Lands Service, Interior Department, Ottawa.

Subsection 2.—Provincial Mining Laws and Regulations.

Nova Scotia.—All minerals in Nova Scotia, except limestone, gypsum and building materials, are the property of the Crown in the right of the province of Nova Scotia. They are dealt with under the provisions of the Mines Act (c. 22, R.S.N.S., 1923), and amending Acts of 1927 (c. 17), and 1929 (c. 22), and are administered by the Minister of Public Works and Mines, at whose office in the Parliament Buildings, Halifax, all records of mining titles are kept.

The chief mineral product of Nova Scotia is coal, which is subjected to a royalty of 12½ cents per long ton. Coal used in mining operations, or used for domestic purposes by workmen employed about the mine, is exempted from royalty.

Licences to search for mineral, good for a year, are issued at a nominal fee. More permanent holding is obtained by lease, which, in the case of minerals other than gold and silver, is granted for 20 years (subject to payment of an annual rental and the performance of work), the lease carrying the right to three successive renewals of 20 years each. A lease for gold and silver is given for 40 years, subject to a small annual rental and performance of work.

Other important minerals of Nova Scotia are gold, salt, lead, zinc, copper, diatomaceous earth, manganese, antimony, gypsum and limestone.

Full information concerning minerals and mining laws may be obtained by writing the Department of Public Works and Mines at the above address.

New Brunswick.—In grants of Crown land with few exceptions since about the year 1805, all mines and minerals are reserved to the Crown and regarded as property separate from the soil. Prior to this time, most of the grants reserved only gold, silver, copper, lead and coal. Royalties levied are 10 cents per long ton on coal and 5 p.c. on petroleum and natural gas. Prospectors must obtain a licence which costs $10 and is good for the calendar year. It entitles the prospector to stake up to 10 claims of 40 acres each. Claims must be registered within 30 days and 25 days' work done on each claim within the year, after which a mining licence, renewable annually on the payment of $10 per claim, will be granted. Administration is carried on subject to the provisions of the Mining Act (c. 35, R.S.N.B., 1927). For full information apply to the Department of Lands and Mines, Fredericton, N.B.

Quebec.—The mining lands of Quebec are administered by the Minister of Mines, subject to the provisions of the Quebec Mining Act (c. 80, R.S.Q., 1925).

In townships the Crown retains full mining rights on lands granted subsequently to July 24, 1880, and, in the case of gold and silver, on lands granted previous to that date. All mining rights belong to the Crown in most of the seigneuries.

Mining lands up to 200 acres in extent can be acquired by staking the ground as prescribed by the Mining Act. Claims must be recorded and 25 days' work per claim done within 12 months, when a mining licence is granted upon payment of 50 cents an acre and a recording fee of $10. The licence is renewable annually. When a mineral occurrence of importance has been found, the mining rights can be purchased as a mining concession for $5 per acre for superior minerals and $3 per acre for inferior minerals.

Mining operators must make annual returns to the Minister. Taxes are payable on annual profits at rates graduated up from 3 p.c. A mining inspector is appointed in each mining division for the administration of the mining laws and regulations.

Ontario.—Ontario owns and administers for mining purposes, through her Department of Mines, all the Crown lands within her boundaries except Indian lands, which are under the Dominion Government. Mining lands are subject to the provisions of the Mining Act, (c. 45, R.S.O. 1927). Title is a grant in fee simple, except in forest reserves, where the lands are leased. A resident mining recorder is appointed for each mining division created in the mineral areas. There is a tax on mining lands in unorganized territory of 5c. per acre per annum. Other taxation is on the net profits, the rate being 3 p.c. up to $1,000,000; 5 p.c. from $1,000,000 to $5,000,000, etc. The first $10,000 of profit is exempt. There is no apex law, all claim boundaries extending vertically downwards. Disputes are settled by the Recorder, or, on appeal, by the Mining Court of Ontario.

A miner's licence is necessary to stake out or acquire Crown lands for mining purposes; fee $5 per year for an individual; for companies, $100 on each million dollars capital. The holder may stake out for himself three claims in any and every mining division, and six additional for not more than two other licence holders. A mining claim in unsurveyed territory is a square of 20 chains to a side (40 acres) with lines N-S and E-W astronomically. Where land is subdivided into lots a claim may be an eighth, a quarter or a half lot, *i.e.*, up to 50 acres.

There are special provisions regarding petroleum, natural gas, coal and salt on the James Bay slope, where these substances may be searched for under authority of a boring permit. A total of 1,920 acres may be taken up by an individual in blocks of 640 acres.

Full information concerning the mineral resources of the province and the mining laws may be obtained by writing the Department of Mines, Parliament Buildings, Toronto, Ontario.

Manitoba.—With the transfer of the natural resources to the province of Manitoba on July 15, 1930, control of most of the public lands—now known as provincial lands—passed from Dominion Lands Administration to that of the Department of Mines and Natural Resources of the Manitoba Government.

During the 1930 session, the Legislative Assembly of Manitoba enacted a "Provincial Lands Act" wherein all mines and minerals are reserved to the Crown out of every disposition of provincial lands. Further provision is made for the right to enter, locate, prospect and mine such minerals in a manner and on such terms and conditions as are set forth in the Mines Act (c. 27, 1930) and regulations thereunder. The Mines Act of 1930 repealed an Act existing since 1897 but preserved the regulations passed thereunder governing general mining operations.

Mining lands and rights are administered by the Mines Branch, Department of Mines and Natural Resources, subject to the provisions of the Mines Act. Regulations under this Act put into force by Order in Council govern the administration and leasing of—

1. Mineral claims—gold, silver, copper, zinc, etc.
2. Boring permits—Coal, natural gas, oil shale, petroleum and salt.
3. Quarrying locations—granite, limestone, marble, slate or any building stone, gypsum, gravel, marl, peat and sand.

A miner's licence is necessary to prospect, stake out or acquire Crown lands for mining purposes; fee of $5 for an individual and larger amounts for mining partnerships and mining companies. A licensee may stake out for himself three mineral claims and six more for two other licensees, not exceeding nine in all in any mining division. He may also obtain one boring permit or one quarrying location.

A mineral claim in unsurveyed territory is a square of 1,500 feet (51·65 acres) with lines N.-S. and E.-W. astronomically. A boring permit allows of 640 acres to be taken up and a quarrying location up to 51·65 acres.

In the case of a mineral claim, entry is granted by the mining recorder, fee $5 for a claim located by the licensee on his own licence and $10 if recorded on behalf of another licensee. After recording, 25 days' work per claim must be done within twelve months and the grant is renewable from year to year on 25 days' work being done on the claim each year. A maximum of nine claims may be grouped for the purpose of this work. When 125 days' work has been done and confirmed, a survey made by a Manitoba land surveyor at the grantee's expense, and certain other requirements complied with, a lease is granted. The cost of the survey may be reckoned as one year's work done on the claim.

The provisions regarding substances searched for under authority of a boring permit make it possible to obtain a lease for 21 years for the location if the holder has proved during the term of the boring permit (which is one year) that he has discovered any one of such substances in commercial quantities on the land included in the permit. The lease is subject to annual rental, and also to the expenditure of $2.50 per acre per annum, in obtaining oil shale, coal, natural gas, petroleum or salt.

Lands containing granite, limestone, marble, slate or any building stone, together with clay, gravel, gypsum or sand may be leased at an annual rental, together with an expenditure of $2.50 per acre per annum in taking out the material.

For a copy of the regulations governing the disposal of mineral rights, application may be made to the Director, Mines Branch, Department of Mines and Natural Resources, Winnipeg, Manitoba.

Mining recorders' offices are located at Winnipeg, The Pas and Kississing (Cold Lake).

Saskatchewan.—On Sept. 1, 1930, the province of Saskatchewan came into control of its natural resources, which, since 1905, had been controlled and administered by the Dominion Government. Until such time as it is found necessary or expedient, the Dominion mining laws and regulations will remain in force in the province of Saskatchewan. These regulations are shown at the beginning of this section of the Canada Year Book.

The Saskatchewan Mines Act provides for the competency of mine managers and pit bosses, for the reporting of accidents and generally for the welfare and safety of those employed in the production of minerals.

Alberta.—Since the Dominion Government in 1930 transferred control of the natural resources lying within the boundaries of Alberta to the Provincial

Government, the leasing or disposal of mineral lands or rights is administered under provincial laws and regulations. However, until new conditions necessitate change, mineral lands or rights within the province are being administered by the Provincial Government in accordance with the Dominion mining laws and regulations in force at the time of the transfer.

The Coal Mines Regulation Act of the province of Alberta and regulations made thereunder make provision for the safe operation of mines in the province, applying to mines of coal, ironstone, shale, clay and other minerals. Operations must be under the control of officials who hold certificates granted after suitable examination. A staff of inspectors is provided to administer the regulations. Monthly reports of operations must be returned to the Minister.

The Coal Sales Act requires that all coal mines shall be registered by name and all coal produced in Alberta sold under the registered name. The Coal Miners Wages Security Act requires all coal operators to provide bond to insure the payment of wages, unless exemption is obtained through the Board of Public Commissions.

British Columbia.—The Department of Mines, organized under the provisions of c. 163, R.S.B.C., 1924, and amendments, administers the mineral lands of the province, and has charge of all matters relating to mining, including the Bureau of Mines and all offices established under the Bureau of Mines Act and all Government offices in connection with the mining industry.

The terms of the mining laws are favourable to the prospector, with small fees and rentals. On a lode mine of 51 acres an expenditure of $500 in work, which may be spread over 5 years, is required to obtain a Crown grant, while surface rights are obtainable at a figure in no case exceeding $5 per acre. Any person over the age of 18 and any joint stock company can obtain a "free miner's certificate" on payment of a fee, which for the individual is $5 per annum, while for the joint stock company it is either $50 or $100, depending on capitalization. Mineral claims located under the provisions of the Mineral Act must not exceed 1,500 feet square.

Placer.—Placer mining is governed by the "Placer Mining Act", and by the interpretation clause its scope is defined as "the mining of any natural stratum or bed of earth, gravel, or cement mined for gold or other precious minerals or stones".

Placer Claims.—Placer claims are of 3 classes, as follows:—(1) Creek diggings,—200 feet long and 1,000 feet wide, 500 feet on each side of the stream; (2) bar diggings,—250 feet square on a bar covered at high water, or a strip 250 feet long at high water, extending between high-water mark and extreme low-water mark; (3) dry diggings, over which water never extends,—250 feet square.

A placer claim must be worked by the owner, or someone on his behalf, continuously during working hours. Discontinuance for 72 hours, except in close season, lay-over, leave of absence, sickness or other reason satisfactory to the Gold Commissioner is deemed abandonment. To hold a placer claim over one year, it must be again recorded before expiration of the year.

Placer Leases.—Leases of unoccupied Crown lands may be granted by the Gold Commissioner of the district. Placer leases are of 4 classes, as follows:—

(1) Creek lease—on rivers or on abandoned or unworked creeks, half a mile in length—annual rental, $37.50; annual expenditure required on development, $250. (2) Bench lease—80 acres—annual rental, $25; annual expenditure required on development, $250. (3) Dredging lease—on the bed of any river below low water mark, 5 miles—annual rental, $25 per mile; annual expenditure required on development, $1,000 per mile; the value of any new plant or machinery employed to count as money expended in development. (4) Precious stone diggings—10 acres.

Section 2.—Summary of General Production.

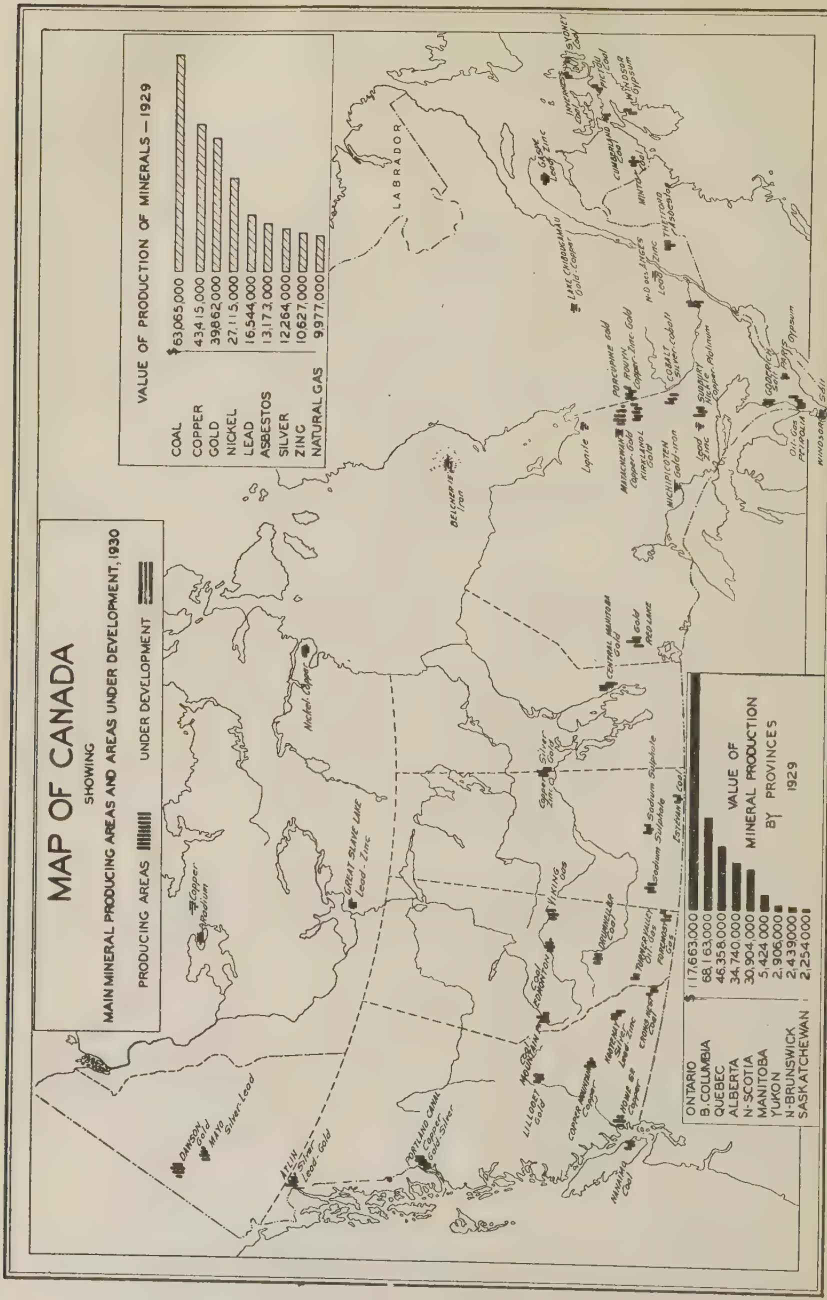
Since 1886, the first year that the Geological Survey issued complete returns of mineral production, Canada has shown a fairly steady growth in mineral output. In that year the per capita production was only $2.23; in 1901, five years after the Yukon discoveries, production totalled $12.16 per capita. There was a falling-off from 1902 to 1904. Thereafter, owing to the discovery of silver in the Cobalt area, the development of the copper and nickel ores of the Sudbury district, the opening up of the gold mines of Porcupine and Kirkland Lake in Ontario, the improvements in metallurgical practice which led to the recoveries of large quantities of lead and zinc from British Columbia ores, and the discoveries and developments in Quebec and Manitoba, the per capita production rose to $31.73 in 1929.

In 1929, the latest year for which world figures are available, Canada stood first in the production of asbestos and nickel, third in output of gold and silver, fourth in lead and copper, sixth in zinc and eleventh in the production of pig iron and coal. During that year Canada produced 85 p.c. of the world's nickel, 68 p.c. of the world's asbestos, a little less than half the world's cobalt, 10 p.c. of the gold, 9 p.c. of the silver, 8 p.c. of the lead, 5 p.c. of the zinc, and 16 p.c. of the copper. Figures of total production fail to convey a correct impression of the magnitude of the industry on account of the diversity of the products and of the units involved, while the varying prices attendant upon fluctuating market conditions vitiate comparisons on the value basis.

Preliminary figures of the 1930 output, valued at $278,470,563, reflected the lower prices for metals and the general falling-off in demand for coal and other non-metallics. More gold, copper, zinc, natural gas, petroleum, stone, and sand and gravel were produced than ever before and the silver and lead output exceeded that of the previous year, but the production of coal, asbestos, gypsum, lime, cement and clay products were all lower than in 1929. In addition to the mining and metallurgical development of our known ore bodies, prospecting in outlying areas has been carried forward on a much greater scale than formerly. The development of the aeroplane has provided an agent of rapid transportation in regions where the canoe and dog team were the only other means available, whilst photography from the air is providing reliable maps of large regions formerly entirely unexplored.

Subsection 1.—General Statistics of Mineral Production.

In Table 1 will be found the total values of the minerals produced in Canada in each year since 1886, while Table 2 gives the details of the mineral production of 1928 and 1929, with the percentage of increase or decrease in the latter year.



MAP SHOWING ACTIVE MINERAL AREAS OF CANADA.

An interesting comparison of the mineral production of the two years, as to quantities and values, is furnished in Table 3, which shows that the increase of 13·1 p.c. in the value of product in the latter year, as compared with the former, was due to an increase of 8·4 p.c. in quantities mined and 4·7 p.c. in average values.

1.—Value of Mineral Production in Canada, calendar years 1886-1930.

Calendar Year.	Total Value.	Value per capita.	Calendar Year.	Total Value.	Value per capita.	Calendar Year.	Total Value.	Value per capita.
	$	$		$	$		$	$
1886	10,221,255	2·23	1901	65,797,911	12·16	1916	177,201,534	22·05
1887	10,321,331	2·23	1902	63,231,836	11·36	1917	189,646,821	23·18
1888	12,518,894	2·67	1903	61,740,513	10·83	1918	211,301,897	25·36
1889	14,013,113	2·96	1904	60,082,771	10·27	1919	176,686,390	20·84
1890	16,763,353	3·50	1905	69,078,999	11·49	1920	227,859,665	26·40
1891	18,976,616	3·92	1906	79,286,697	12·81	1921	171,923,342	19·56
1892	16,623,415	3·39	1907	86,865,202	13·75	1922	184,297,242	20·61
1893	20,035,082	4·04	1908	85,557,101	13·16	1923	214,079,331	23·57
1894	19,931,158	3·98	1909	91,831,441	13,70	1924	209,583,406	22·72
1895	20,505,917	4·05	1910	106,823,623	15·44	1925	226,583,333	24·20
1896	22,474,256	4·38	1911	103,220,994	14·32	1926	240,437,123	25·61
1897	28,485,023	5·49	1912	135,048,296	18·32	1927	247,356,695	25·97
1898	38,412,431	7·32	1913	145,634,812	19·35	1928	274,989,487	28·07
1899	49,234,005	9·27	1914	128,863,075	16·75	1929	310,850,246	31·73
1900	64,420,877	12·04	1915	137,109,171	17·44	1930	278,470,563[1]	28·03[1]

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[1] Subject to revision.

2.—Mineral Production of Canada, calendar years 1928 and 1929.

Item.	1928.		1929.		P.C. Increase (+) or Decrease (−).	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
METALLIC.		$		$	p.c.	p.c.
Arsenic (As_2O_3)........ lb.	5,432,223	193,052	5,230,088	171,320	− 3·7	− 14·6
Bismuth.............. "	14,002	5,067	194,329	307,114	–	–
Cadmium............. "	491,894	341,374	773,976	675,294	+ 57·4	+ 97·7
Chromite............. tons	–	–	126	900	–	–
Cobalt................ lb.	956,590	1,672,320	929,415	1,801,915	− 2·9	+ 7·8
Copper................ "	202,696,046	28,598,249	248,120,760	43,415,251	+ 22·4	+ 51·8
Gold................fine oz.	1,890,592	39,082,005	1,928,308	39,861,663	+ 2·0	+ 2·0
Iron ore for export..... tons	2,244	6,732	2,748	7,359	+ 22·4	+ 9·4
Lead................ lb.	337,946,688	15,553,231	326,522,566	16,544,248	− 3·4	+ 6·4
Molybdenite.......... "	–	–	16,150	6,400	–	–
Nickel................ "	96,755,578	22,318,907	110,275,912	27,115,461	+ 14·0	+ 21·4
Palladium, rhodium, iridium, etc........fine oz.	13,607	627,833	17,318	809,289	+ 27·2	+ 28·9
Platinum............ "	10,532	708,909	12,519	846,756	+ 18·9	+ 19·5
Silver................ "	21,936,407	12,761,725	23,143,261	12,264,308	+ 5·5	− 3·8
Zinc.................. lb.	184,647,374	10,143,050	197,267,087	10,626,778	+ 6·8	+ 4·8
Totals, Metallic Minerals ...	–	**132,012,454**	–	**154,451,056**	–	+ **17·0**

2.—Mineral Production of Canada, calendar years 1928 and 1929—continued.

Item.	1928.		1929.		P.C. Increase (+) or Decrease (−).	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		$		$	p.c.	p.c.
NON-METALLIC.						
Fuels.						
Coal.................. tons	17,564,293	63,757,833	17,496,557	63,065,170	− 0·4	− 1·1
Natural gas.........M cu. ft.	22,582,586	8,614,182	28,378,462	9,977,124	+ 25·6	+ 15·8
Peat.................. tons	1,497	5,845	2,607	13,339	+ 74·0	+ 128·0
Petroleum, crude...... brl.	624,184	2,035,300	1,117,368	3,731,764	+ 79·0	+ 83·5
Totals, Fuels...........	−	74,413,160	−	76,787,397	−	+ 3·2
Other Non-Metallic Minerals						
Actinolite............. tons	70	875	30	375	− 57·1	− 57·1
Asbestos............. “	273,033	11,238,360	306,055	13,172,581	+ 12·1	+ 17·2
Barytes.............. “	127	2,847	105	2,341	− 17·4	− 17·7
Beryl crystals......... lb.	−	−	4,456	114	−	−
Bituminous sands..... tons	94	374	989	3,956	−	−
Diatomite............ “	368	8,960	429	10,330	+ 16·6	+ 15·3
Feldspar............. “	31,897	284,942	37,527	340,471	+ 17·6	+ 19·5
Fluorspar............ “	−	−	17,870	268,120	−	−
Graphite............. “	1,097	57,041	1,461	103,174	+ 33·1	+ 81·0
Grindstones.......... “	1,855	100,960	1,947	106,354	+ 5·0	+ 5·3
Gypsum............. “	1,246,368	3,743,648	1,211,689	3,345,696	− 2·7	− 10·7
Iron oxides........... “	5,414	111,198	6,518	115,932	+ 20·4	+ 4·1
Magnesite............ “	13,195	346,990	18,809	491,170	+ 42·5	+ 41·5
Manganese, bog....... “	385	2,237	301	1,830	− 21·8	− 18·2
Mica................. “	3,660	87,168	4,053	118,549	+ 10·7	+ 36·0
Mineral water......... gal.	269,045	33,498	321,905	16,139	+ 19·7	− 51·8
Phosphate........... tons	641	8,276	1,185	5,380	+ 84·0	− 35·0
Quartz............... “	282,522	523,933	265,949	561,527	− 5·8	+ 7·1
Salt.................. “	299,445	1,495,971	330,264	1,578,086	+ 10·3	+ 5·5
Silica brick........... M	3,224	155,502	3,951	173,581	+ 22·5	+ 11·7
Soapstone............ tons	−	40,171	−	47,986	−	+ 19·5
Sodium carbonate..... “	519	4,922	600	8,100	+ 15·6	+ 64·5
Sodium sulphate...... “	6,016	68,804	5,018	64,112	− 16·6	− 6·9
Sulphur[1]............. “	38,589	321,033	42,781	350,843	+ 10·9	+ 9·3
Talc.................. “	14,925	179,187	15,509	181,212	+ 3·9	+ 1·1
Volcanic dust......... “	485	9,795	300	6,000	− 38·1	− 38·8
Totals, Other Non-Metallic Minerals.....	−	18,826,692	−	21,073,959	−	+ 11·9
Totals, Non-Metallic Minerals.............	−	**93,239,852**	−	**97,861,356**	−	+ **5·0**
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS.						
Clay Products.						
Brick—						
Soft mud process—						
Face.................M	17,532	349,847	26,624	538,096	+ 51·9	+ 53·9
Common......... M	93,280	1,328,981	77,399	1,195,511	− 17·0	− 10·0
Stiff mud process— (wire cut)						
Face.............. M	101,717	2,247,472	114,093	2,469,417	+ 12·1	+ 10·0
Common......... M	144,404	2,182,307	170,840	2,509,451	+ 18·3	+ 15·0
Dry press—						
Face.............. M	36,587	748,301	38,591	813,461	+ 5·5	+ 8·7
Common......... M	24,294	337,096	26,131	368,039	+ 7·5	+ 9·2
Fancy or ornamental brick............. M	599	28,763	187	12,795	− 68·8	− 55·5
Sewer brick......... M	2,888	59,010	4,765	96,588	+ 65·0	+ 63·6
Paving brick........ M	338	4,464	97	3,844	− 71·3	− 13·9
Firebrick........... M	4,940	234,460	5,196	251,043	+ 5·1	+ 7·0
Fire clay.............. tons	5,148	35,409	5,041	35,226	− 2·1	− 0·5
Fire clay blocks and shapes.	−	105,091	−	130,411	−	+ 24·0
Hollow blocks........ tons	205,257	1,930,152	221,800	2,214,384	+ 8·0	+ 14·7

2.—Mineral Production of Canada, calendar years 1928 and 1929—concluded.

Item.	1928.		1929.		P.C. Increase (+) or Decrease (−).	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		$		$	p.c.	p.c.
CLAY PRODUCTS AND OTHER STRUCTURAL PRODUCTS—*con.*						
Clay Products—con.						
Roofing tile.......... No.	72,930	6,435	35,075	4,628	− 51·9	− 28·1
Floor tile (quarries)..sq. ft.	171,520	45,729	307,400	70,186	+ 79·3	+ 53·5
Drain tile............ M	22,629	656,054	25,000	720,316	+ 10·5	+ 9·8
Sewer pipe, copings, flue linings, etc...........	–	1,723,644	–	2,005,887	–	+ 16·4
Pottery, glazed and unglazed	–	356,093	–	323,194	–	− 9·2
Other clay products........	–	2,410	–	142,166	–	–
Totals, Clay Products..	–	12,381,718	–	13,904,643	–	+ 12·3
Other Structural Materials.						
Cement............... brl.	11,023,928	16,739,163	12,284,081	19,337,235	+ 11·4	+ 15·5
Lime................. tons	508,889	4,534,568	674,087	5,908,610	+ 32·4	+ 30·3
Sand and gravel...... "	28,102,917	5,809,431	27,846,945	7,317,814	− 0·9	+ 26·0
Stone................ "	8,253,934	10,272,301	9,622,424	12,066,532	+ 16·6	+ 17·5
Totals, Other Structural Materials..............	–	37,355,463	–	44,630,191	–	+ 19·5
Totals, Clay Products and Other Structural Materials.......	–	**49,737,181**	–	**58,534,834**	–	+ **17·7**
Grand Totals..........	–	**274,989,487**	–	**310,850,246**	–	+ **13·0**

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[1] Includes sulphur content of pyrites at its sale value and estimated figures for quantity and value of sulphur in smelter gases used for acid making.

3.—Mineral Production of Canada, Compared as to Quantity and Value, calendar years 1928 and 1929 ("000" omitted).

Item.	Actual Value 1929.	Value at Prices of 1928.	Actual Value 1928.	Increase (+) or Decrease (−).	Due to Higher (+) or Lower (−) Prices.	Due to Larger (+) or Smaller (−) Quantities.
	$	$	$	$	$	$
METALLIC.						
Arsenic.....................	171	186	193	− 22	− 15	− 7
Bismuth....................	307	70	5	+ 302	+ 237	+ 65
Cadmium....................	675	537	341	+ 334	+ 138	+ 196
Cobalt......................	1,802	1,624	1,672	+ 130	+ 178	− 48
Copper.....................	43,415	35,010	28,598	+ 14,817	+ 8,405	+ 6,412
Gold.......................	39,862	39,862	39,082	+ 780	–	+ 780
Lead.......................	16,544	15,020	15,553	+ 991	+ 1,524	− 533
Nickel.....................	27,116	25,430	22,319	+ 4,797	+ 1,686	+ 3,111
Palladium, rhodium, etc....	809	800	628	+ 181	+ 9	+ 172
Platinum...................	847	843	709	+ 138	+ 4	+ 134
Silver.....................	12,264	13,463	12,762	− 498	− 1,199	+ 701
Zinc.......................	10,627	10,830	10,143	+ 484	− 203	+ 687
Other metallics............	15	16	7	+ 8	− 1	+ 9
Totals, Metallic Minerals..................	**154,454**	**143,691**	**132,012**	+ **22,442**	+ **10,763**	+ **11,679**

3.—Mineral Production of Canada, Compared as to Quantity and Value, calendar years 1928 and 1929 ("000" omitted)—concluded.

Item.	Actual Value 1929.	Value at Prices of 1928.	Actual Value 1928.	Increase (+) or Decrease (−).	Due to Higher (+) or Lower (−) Prices.	Due to Larger (+) or Smaller (−) Quantities.
	$	$	$	$	$	$
NON-METALLIC.						
Fuels.						
Coal	63,065	63,500	63,758	− 693	− 435	− 258
Natural gas	9,977	10,825	8,614	+ 1,363	− 848	+ 2,211
Petroleum, crude	3,732	3,640	2,035	+ 1,697	+ 92	+ 1,605
Peat	13	10	6	+ 7	+ 3	+ 4
Totals, Fuels	**76,787**	**77,975**	**74,413**	**+ 2,374**	**− 1,188**	**+ 3,562**
Other Non-Metallic Minerals.						
Asbestos	13,173	12,597	11,238	+ 1,935	+ 576	+ 1,359
Feldspar	340	335	285	+ 55	+ 5	+ 50
Fluorspar	268	268	–	+ 268	–	+ 268
Graphite	103	76	57	+ 46	+ 27	+ 19
Grindstones	106	106	101	+ 5	–	+ 5
Gypsum	3,346	3,638	3,744	− 398	− 292	− 106
Iron oxides	116	134	111	+ 5	− 18	+ 23
Magnesite	491	494	347	+ 144	− 3	+ 147
Mica	119	97	87	+ 32	+ 22	+ 10
Mineral water	16	40	34	− 18	− 24	+ 6
Quartz	562	494	524	+ 38	+ 68	− 30
Salt	1,578	1,650	1,496	+ 82	− 72	+ 154
Silica brick	174	190	156	+ 18	− 16	+ 34
Sodium sulphate	64	57	69	− 5	+ 7	− 12
Sulphur	351	356	321	+ 30	− 5	+ 35
Talc	181	186	179	+ 2	− 5	+ 7
Other non-metallics	86	94	78	+ 8	− 8	+ 16
Totals, Other Non-Metallic Minerals	**21,074**	**20,812**	**18,827**	**+ 2,247**	**+ 262**	**+ 1,985**
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS.						
Clay Products.						
Brick—Soft mud process: Face	538	532	350	+ 188	+ 6	+ 182
Common	1,196	1,103	1,329	− 133	+ 93	− 226
Stiff mud process (wire cut): Face	2,469	2,520	2,248	+ 221	− 51	+ 272
Common	2,510	2,582	2,182	+ 328	− 72	+ 400
Dry press: Face	814	789	748	+ 66	+ 25	+ 41
Common	368	363	337	+ 31	+ 5	+ 26
Fancy or ornamental	13	9	29	− 16	+ 4	− 20
Sewer brick	97	97	59	+ 38	–	+ 38
Fire brick	251	247	234	+ 17	+ 4	+ 13
Fireclay blocks, etc.	130	130	105	+ 25	–	+ 25
Hollow blocks	2,214	2,085	1,930	+ 284	+ 129	+ 155
Floor tile	70	85	46	+ 24	− 15	+ 39
Drain tile	720	724	656	+ 64	− 4	+ 68
Sewer pipe, copings, etc.	2,006	2,006	1,724	+ 282	–	+ 282
Pottery, glazed, or not	323	323	356	− 33	–	− 33
Other clay products	186	181	49	+ 137	+ 5	+ 132
Totals, Clay Products	**13,905**	**13,776**	**12,382**	**+ 1,523**	**+ 129**	**+ 1,394**
Other Structural Materials.						
Cement	19,337	18,647	16,739	+ 2,598	+ 690	+ 1,908
Lime	5,909	6,004	4,535	+ 1,374	− 95	+ 1,469
Sand and gravel	7,318	5,130	5,809	+ 1,509	+ 2,188	− 679
Stone	12,066	11,990	10,272	+ 1,794	+ 76	+ 1,718
Totals, Other Structural Materials	**44,630**	**41,771**	**37,355**	**+ 7,275**	**+ 2,859**	**+ 4,416**
Grand Totals	**310,850**	**298,025**	**274,989**	**+ 35,861**	**+ 12,825**	**+ 23,036**
Increase or decrease, p.c.	–	–	–	+ 13·1	+ 4·7	+ 8·4

Subsection 2.—Provincial Distribution of Mineral Production.

The principal mineral-producing province of Canada in 1929 was Ontario, with an output valued at $117,662,505. British Columbia came second with a mineral production valued at $68,162,878. Quebec was third with $46,358,285 and Alberta ranked fourth with $34,739,986. Nova Scotia was fifth with $30,904,453 and Manitoba, Yukon Territory, New Brunswick, and Saskatchewan followed in the order named, with productions of from $5,423,825 down to $2,253,506. The record of the respective provinces from 1899 on is given in Table **4.**

4.—Mineral Production of Canada, by Provinces, calendar years 1899-1930.

Calendar Year.	Nova Scotia.[1]	New Brunswick.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	Yukon.	British Columbia.
	$	$	$	$		$			$
1899...	6,817,274	420,227	2,585,635	9,819,557	17,108,707				12,482,605
1900...	9,298,479	439,060	3,292,383	11,258,099	23,452,330				16,680,526
1901...	7,770,159	467,985	3,759,984	13,970,010	19,297,940				20,531,833
1902...	10,686,549	607,129	3,743,636	14,619,091	16,127,400				17,448,031
1903...	11,431,914	580,495	3,585,938	14,160,033	14,082,986				17,899,147
1904...	11,212,746	559,913	3,688,482	12,582,843	12,713,613				19,325,174
1905...	11,507,047	559,035	4,405,975	18,833,292	11,387,642				22,386,008
1906...	12,894,303	646,328	5,242,058	25,111,682	10,092,726				25,299,600
1907...	14,532,040	664,467	6,205,553	30,381,638	898,775	533,251	4,657,524	3,335,898	25,656,056
1908...	14,487,108	579,816	6,372,949	30,623,812	584,374	413,212	5,122,505	3,669,290	23,704,035
1909...	12,504,810	657,035	7,086,265	37,374,577	1,193,377	456,246	6,047,447	4,032,678	22,479,006
1910...	14,195,730	581,942	8,270,136	43,538,078	1,500,359	498,122	8,996,210	4,764,474	24,478,572
1911...	15,409,397	612,830	9,304,717	42,796,162	1,791,772	636,706	6,662,673	4,707,432	21,299,305
1912...	18,922,236	771,004	11,656,998	51,985,876	2,463,074	1,165,642	12,073,589	5,933,242	30,076,635
1913...	19,376,183	1,102,613	13,475,534	59,167,749	2,214,496	881,142	15,054,046	6,276,737	28,086,312
1914...	17,584,639	1,014,570	11,836,929	53,034,677	2,413,489	712,313	12,684,234	5,418,185	24,164,039
1915...	18,088,342	903,467	11,619,275	61,071,287	1,318,387	451,933	9,909,347	5,057,708	28,689,425
1916...	20,042,262	1,118,187	14,406,598	80,461,323	1,823,576	590,473	13,297,543	5,491,610	39,969,962
1917...	21,104,542	1,435,024	17,400,077	89,066,600	2,628,264	860,651	16,527,535	4,482,202	36,141,926
1918...	22,317,108	2,144,017	19,605,347	94,694,093	3,120,600	1,019,781	23,109,987	2,355,631	42,935,333
1919...	23,445,215	1,770,945	21,267,947	67,917,998	2,868,378	1,521,964	21,087,582	1,940,934	34,865,427
1920...	34,130,017	2,491,787	28,886,214	81,715,808	4,223,461	1,837,468	33,586,456	1,576,726	39,411,728
1921...	28,912,111	1,901,505	15,157,094	57,356,651	1,934,117	1,114,220	30,562,229	1,754,955	33,230,460
1922...	25,923,499	2,263,692	17,646,529	65,866,029	2,258,942	1,255,470	27,872,136	1,785,573	39,423,962
1923...	29,648,893	2,462,457	20,308,763	80,825,851	1,768,037	1,047,583	31,287,536	2,972,823	43,757,388
1924...	23,820,352	1,969,260	19,136,504	86,398,656	1,534,249	1,128,100	22,344,940	952,812	52,298,533
1925...	17,625,612	1,743,858	24,284,527	87,980,436	2,276,759	1,076,392	25,318,866	1,791,641	64,485,242
1926...	28,873,792	1,811,104	25,956,193	84,702,296	3,073,528	1,193,394	26,977,027	2,226,813	65,622,976
1927...	30,111,221	2,148,535	28,870,403	89,982,962	2,888,912	1,455,225	29,309,223	1,789,044	60,801,170
1928 ..	30,524,392	2,198,919	37,037,420	99,584,718	4,186,853	1,719,461	32,531,416	2,709,957	64,496,351
1929....	30,904,453	2,439,072	46,358,285	117,662,505	5,423,825	2,253,506	34,739,986	2,905,736	68,162,878
1930[2]...	26,771,300	2,270,812	40,966,805	112,288,204	5,326,568	2,298,725	30,629,997	2,503,197	54,814,955

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[1] Includes a small production from Prince Edward Island.

[2] Figures for 1930 are subject to revision.

The quantities and values of the minerals produced in each province during 1929 are shown in Table **5.** Coal accounts for 91 p.c. of the value of mineral production in Nova Scotia, with gypsum the item of next importance. Coal and gypsum are also the most important mineral products of New Brunswick, which is also one of the provinces with a production of natural gas and petroleum. Quebec is the only province in which asbestos is produced, and in 1929 this was her principal mineral, while the successful development of the Rouyn mining district made copper the second most important mineral product. Other important minerals of Quebec are cement, stone and other structural materials, gold, zinc, magnesite, silver and lead. Gold represented 28 p.c. of the value of Ontario's mineral production in 1929, and with other metals, of which nickel, copper, silver and cobalt are the chief, made up nearly 72 p.c. of the total for the province. As the most populous province, Ontario has a large production of the various structural materials, and there is also a large production of natural gas and of salt. Aside from cement and other structural materials, gypsum is the principal mineral product of Manitoba although this province has become a producer of gold, which metal in 1929 accounted for 9 p.c. of the total mineral production of the province. Saskatchewan's mineral production is small and coal constitutes about half the total. Coal is the principal product in Alberta, accounting for 66 p.c. of the total, while natural gas, petroleum and cement are the other most important products. The metals, chiefly copper, lead, zinc, silver and gold, make up the greater part of the value of the minerals produced in British Columbia, although there is also a large production of coal. Silver, alluvial gold and lead are the principal mineral products of the Yukon Territory.

5.—Mineral Production of Canada, by Provinces, calendar year 1929.

NOTE.—The mineral production of the Yukon Territory during the calendar year 1929 was as follows in quantities and values:—Gold, 35,892 fine oz., $741,954; Lead, 8,395,603 lb., $424,012; Silver, 3,279,530 fine oz., $1,737,922; Coal, 458 tons, $1,848; Total, $2,905,736.

Mineral.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.
METALLICS.								
Arsenic............. lb.	–	–	–	3,742,913	–	–	–	1,487,175
$	–	–	–	154,887	–	–	–	16,433
Bismuth............ lb.	–	–	–	27,446	–	–	–	166,883
$	–	–	–	23,413	–	–	–	283,701
Cadmium.......... lb.	–	–	–	–	–	–	–	773,976
$	–	–	–	–	–	–	–	675,294
Chromite...........tons	–	–	–	–	–	–	–	126
$	–	–	–	–	–	–	–	900
Cobalt............. lb.	–	–	–	929,415	–	–	–	–
$	–	–	–	1,801,915	–	–	–	–
Copper............. lb.	–	–	55,337,169	88,879,853	–	–	–	103,903,738
$	–	–	10,019,901	14,622,572	–	–	–	18,772,778
Gold............fine oz.	2,687	–	90,798	1,622,267	22,455	–	5	154,204
$	55,545	–	1,876,961	33,535,234	464,186	–	103	3,187,680
Iron ore sold for export..............tons	–	–	2,748	–	–	–	–	–
$	–	–	7,359	–	–	–	–	–
Lead............... lb.	–	–	5,358,304	4,769,506	–	–	–	307,999,153
$	–	–	270,616	294,431	–	–	–	15,555,189
Molybdenite......... lb.	–	–	16,150	–	–	–	–	–
$	–	–	6,400	–	–	–	–	–
Nickel............. lb.	–	–	–	110,275,912	–	–	–	–
$	–	–	–	27,115,461	–	–	–	–
Palladium, rhodium, etc............fine oz.	–	–	–	17,141	–	–	–	177
$	–	–	–	802,453	–	–	–	6,836
Platinum........fine oz.	–	–	–	12,474	–	–	–	45
$	–	–	–	843,928	–	–	–	2,828
Silver...........fine oz.	132	–	813,821	8,890,726	2,644	–	–	10,156,408
$	70	–	431,268	4,711,462	1,401	–	–	5,382,185
Zinc................ lb.	–	–	19,653,440	5,516,806	–	–	–	172,096,841
$	–	–	1,058,731	297,190	–	–	–	9,270,857
Totals, Metallics $	**55,615**	–	**13,671,236**	**84,202,946**	**465,587**	–	**103**	**53,154,681**
NON-METALLICS. *Fuels.*								
Coal.................tons	7,056,133	218,706	–	–	–	580,189	7,150,693	2,490,378
$	28,071,956	909,169	–	–	–	993,226	22,928,182	10,160,789
Natural gas.....M cu. ft.	–	678,456	–	8,586,475	600	–	19,112,931	–
$	–	333,002	–	4,959,695	180	–	4,684,247	–
Peat................tons	–	–	1,607	1,000	–	–	–	–
$	–	–	8,839	4,500	–	–	–	–
Petroleum, crude....brl.	–	7,499	–	121,194	–	–	988,675	–
$	–	19,909	–	253,678	–	–	3,458,177	–
Totals, Fuels... $	**28,071,956**	**1,262,080**	**8,839**	**5,217,873**	**180**	**993,226**	**31,070,606**	**10,160,789**

5.—Mineral Production of Canada, by Provinces, calendar year 1929—continued.

Mineral.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.
NON-METALLICS—con.								
Other Non-Metallics.								
Actinolite..........tons	-	-	-	30	-	-	-	-
$	-	-	-	375	-	-	-	-
Asbestos............tons	-	-	306,055	-	-	-	-	-
$	-	-	13,172,581	-	-	-	-	-
Barytes............tons	105	-	-	-	-	-	-	-
$	2,341	-	-	-	-	-	-	-
Beryl crystals....... lb.	-	-	-	4,456	-	-	-	-
$	-	-	-	114	-	-	-	-
Bituminous sands....tons	-	-	-	-	-	-	989	-
$	-	-	-	-	-	-	3,956	-
Diatomite..........tons	254	-	-	-	-	-	-	175
$	5,080	-	-	-	-	-	-	5,250
Feldspar............tons	-	-	15,790	21,737	-	-	-	-
$	-	-	133,492	206,979	-	-	-	-
Fluorspar...........tons	-	-	-	70	-	-	-	17,800
$	-	-	-	1,120	-	-	-	267,000
Graphite............tons	-	-	173	1,288	-	-	-	-
$	-	-	12,652	90,522	-	-	-	-
Grindstones.........tons	6	1,731	-	-	-	-	-	210
$	110	103,514	-	-	-	-	-	2,730
Gypsum............tons	948,895	70,482	-	100,347	67,269	-	-	24,696
$	1,152,160	485,982	-	832,689	631,051	-	-	243,814
Iron oxides..........tons	-	-	6,220	-	-	-	-	298
$	-	-	113,932	-	-	-	-	2,000
Magnesite..........tons	-	-	18,809	-	-	-	-	-
$	-	-	491,170	-	-	-	-	-
Manganese, bog......tons	-	300	-	-	-	-	-	1
$	-	1,800	-	-	-	-	-	30
Mica...............tons	-	-	1,062	2,991	-	-	-	-
$	-	-	72,630	45,919	-	-	-	-
Mineral water..Imp. gal.	-	-	12,205	309,700	-	-	-	-
$	-	-	2,488	13,651	-	-	-	-
Phosphate..........tons	-	-	40	-	-	-	-	1,145
$	-	-	800	-	-	-	-	4,580
Quartz.............tons	11,845	-	46,444	187,973	10,045	-	-	9,642
$	31,388	-	132,532	316,050	35,610	-	-	45,947
Salt...............tons	27,819	-	-	302,445	-	-	-	-
$	157,662	-	-	1,420,424	-	-	-	-
Silica brick.......... M	2,385	-	-	1,566	-	-	-	-
$	93,207	-	-	80,374	-	-	-	-
Soapstone........... $	-	-	47,986	-	-	-	-	-
Sodium carbonate...tons	-	-	-	-	-	-	-	600
$	-	-	-	-	-	-	-	8,100
Sodium sulphate.....tons	-	-	-	-	-	5,018	-	-
$	-	-	-	-	-	64,112	-	-
Sulphur[1]............tons	-	-	9,926	4,579	-	-	-	28,276
$	-	-	73,119	51,516	-	-	-	226,208
Talc...............tons	-	-	-	15,463	-	-	-	46
$	-	-	-	180,492	-	-	-	720
Volcanic dust........tons	-	-	-	-	-	300	-	-
$	-	-	-	-	-	6,000	-	-
Totals, Other Non-Metallics $	**1,441,948**	**591,296**	**14,253,382**	**3,240,225**	**666,661**	**70,112**	**3,956**	**806,379**
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS.								
Clay Products.								
Brick—								
Soft mud process—								
Face............ M	185	60	1,000	25,379	-	-	-	-
$	2,405	1,500	12,000	522,191	-	-	-	-
Common........ M	757	3,471	7,468	38,054	14,409	473	3,390	9,376
$	10,020	55,120	76,963	606,714	234,481	7,031	45,932	159,250
Stiff mud process (wire cut)—								
Face............ M	1,651	432	38,146	63,570	3,040	2,071	2,281	2,903
$	44,654	10,808	771,573	1,333,723	70,940	62,790	67,166	107,763
Common........ M	12,818	2,124	99,818	31,524	-	10,573	13,896	86
$	160,906	31,860	1,529,751	505,958	-	121,833	157,250	1,893

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[1] Sulphur content of pyrites at its sale value and estimated figures for quantity and value in smelter gases used for acid making.

5.—Mineral Production of Canada, by Provinces, calendar year 1929—concluded.

Mineral.		Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS—con.									
Brick—concluded.									
Dry press—									
Face	M	–	–	2,990	30,291	–	1,184	4,125	–
	$	–	–	81,333	611,625	–	38,652	81,851	–
Common	M	–	–	–	5,482	–	–	18,322	2,327
	$	–	–	–	76,016	–	–	254,472	37,551
Fancy or ornamental brick	M	–	–	75	111	–	–	–	–
	$	–	–	3,783	9,012	–	–	–	–
Sewer brick	M	–	–	–	4,631	–	–	–	134
	$	–	–	–	92,316	–	–	–	4,272
Paving brick	M	–	–	–	–	–	–	–	97
	$	–	–	–	–	–	–	–	3,844
Firebrick	M	154	–	–	–	–	809	59	4,175
	$	11,340	–	–	–	–	43,384	2,934	193,385
Fireclay	tons	2,972	47	–	–	–	754	48	1,220
	$	10,669	1,863	–	–	–	5,965	624	16,105
Fireclay blocks and shapes	$	675	1,351	–	–	–	106,643	–	21,742
Hollow blocks	tons	15,455	1,119	49,488	103,454	2,785	13,257	20,812	15,430
	$	182,076	23,734	536,684	972,993	41,254	111,072	195,503	151,068
Roofing tile	No.	–	–	–	35,075	–	–	–	–
	$	–	–	–	4,628	–	–	–	–
Floor tiles (quarries)	sq. ft.	–	–	–	307,400	–	–	–	–
	$	–	–	–	70,186	–	–	–	–
Drain tile	M	131	–	807	22,535	392	25	158	952
	$	5,284	–	28,500	629,322	15,565	1,000	7,711	32,934
Sewer pipe, copings, flue linings, etc.	$	225,128	–	147,115	1,167,463	–	–	335,954	130,227
Pottery, glazed or unglazed	$	–	33,770	–	96,394	–	–	193,030	–
Other clay products.	$	–	–	–	131,621	–	4,152	–	6,393
Totals, Clay Products	$	**653,157**	**160,006**	**3,187,702**	**6,830,162**	**362,240**	**502,522**	**1,342,427**	**866,427**
Other Structural Materials.									
Cement	brl.	–	–	5,169,408	4,624,712	1,000,258	–	808,796	680,907
	$	–	–	7,120,374	6,608,246	2,350,606	–	1,770,786	1,487,223
Lime	tons	42,001	15,518	166,892	370,158	32,246	–	7,681	39,591
	$	154,187	174,553	1,264,194	3,364,411	361,104	–	79,569	510,592
Sand and gravel	tons	332,599	525,857	6,203,231	11,358,568	1,782,085	3,496,679	1,721,930	2,425,996
	$	151,368	46,167	1,534,699	3,462,379	322,430	687,646	447,993	665,132
Stone	tons	264,706	27,352	3,484,471	5,239,672	192,109	–	5,183	408,931
	$	376,222	204,970	5,317,859	4,736,263	895,017	–	24,546	511,655
Totals, Other Structural Materials	$	**681,777**	**425,690**	**15,237,126**	**18,171,299**	**3,929,157**	**687,646**	**2,322,894**	**3,174,602**
Grand Totals	$	**30,904,453**	**2,439,072**	**46,358,285**	**117,662,505**	**5,423,825**	**2,253,506**	**34,739,986**	**68,162,878**

Section 3.—Industrial Statistics of Mining—Capital, Labour, Wages, etc., in Principal Industries.

Annual statistical reports on the mineral production of Canada have been published for many years, first by the Geological Survey, later by the Mines Branch of the Department of Mines, and since 1921 by the Dominion Bureau of Statistics. Previous to that year the annual statistics of mines were confined chiefly to a presentation of the quantity and value production of each of the minerals. The recent treatment has been extended to include a general review of the principal mineral industries, such as the copper-gold, silver-lead-zinc and nickel-copper industries, as well as a section on metallurgical works. The additional data include such features as capital employed, numbers of employees, wages and salaries paid and gross and net production. The aim has been to extend the mining statistics beyond a summary of the production of individual minerals by approaching the subject from the standpoint of industrial organization, definitely illustrating the place which mining holds in the scheme of Canadian productive enterprise.

The Growth of the Mining Industry in Recent Years.—Industrial statistics of the mining industry were collected for the first time in 1922, showing the capital employed, the number of employees, the salaries and wages paid, the cost of fuel and electricity, and the net value of the product. In connection with the item of capital, operators were requested to report *only the capital actually invested in the enterprises,* including (1) cost of lands, buildings, plant, machinery and tools, (2) cost of materials on hand, supplies, finished products and ore on dump, and (3) cash, trading and operating accounts and bills receivable. It should be specially noted that no estimate of undeveloped ores was included in the capital.

The substantial growth of the mining industry in the past few years is clearly established by the summary statistics of Table **6**, which show that the capital invested in the mining industry has increased from $493,694,823 in 1922 to $867,021,033 in 1929, the number of employees from 62,249 to 95,102, the salaries and wages from $75,026,501 to $124,490,511, the cost of fuel and electricity from $11,096,564 to $26,751,585, and the net value of products from $182,858,578 to $315,181,388. The metallic mining industries have shown the greatest progress, their capital, number of employees, salary and wage bill, and net value of products having all more than doubled between 1922 and 1929, in a period of declining prices. Details are given in Table **6.**

6.—Summary of Principal Statistics of the Mineral Industries in Canada, by Groups, 1922-1929, and by Provinces, 1929.

Group and Year.	Firms.	Capital Employed.	Employees.	Salaries and Wages.	Cost of Fuel and Electricity.	Net Value[1] of Bullion, Ore, Concentrates, etc. Shipped from the Mines, Plants and Quarries.
	No.	$	No.	$	No.	$
METALLIC MINERALS.						
1922	408	165,975,343	13,138	18,361,667	1,649,856[2]	60,347,043
1923	339	240,889,284	16,472	25,794,032	7,904,820	68,612,936
1924	296	281,828,285	19,809	29,692,896	7,788,506	86,825,610
1925	323	290,534,965	20,664	32,732,782	8,721,063	105,700,838
1926	396	320,248,840	23,742	36,033,798	10,023,885	115,939,119
1927	479	335,708,206	26,343	40,284,887	10,411,397	121,062,811
1928	508	435,327,646	28,582	44,687,131	9,756,573	140,770,772
1929	485	427,498,173	31,125	50,279,511	11,221,987	163,050,366
NON-METALLIC MINERALS.						
1922	742	232,888,769	37,958	45,225,900	4,028,784[2]	82,976,794
1923	925	243,105,227	39,060	53,428,264	6,422,352	91,936,732
1924	935	259,360,944	33,831	41,933,916	5,788,085	71,796,009
1925	959	253,023,646	31,560	40,032,918	5,685,294	71,851,801
1926	967	274,109,129	36,166	44,379,854	6,535,609	85,240,144
1927	922	279,737,591	37,949	48,273,491	5,402,897	85,205,431
1928	862	295,725,531	39,086	54,089,011	5,824,098	89,312,961
1929	873	317,302,496	40,080	55,602,313	6,033,773	93,596,188

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[1] Gross value less freight and treatment charges. [2] Electricity was not included in 1922.

6.—Summary of Principal Statistics of the Mineral Industries in Canada, by Groups, 1922-1929, and by Provinces, 1929—concluded.

Group and Year.	Firms.	Capital Employed.	Employees.	Salaries and Wages.	Cost of Fuel and Electricity.	Net Value[1] of Bullion, Ore, Concentrates, etc. Shipped from the Mines, Plants and Quarries.
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS.	No.	$	No.	$	No.	$
1922	794	94,830,711	11,153	11,438,934	5,417,924[2]	39,534,741
1923	1,031	94,842,501	11,420	12,112,581	6,930,164	37,751,381
1924	983	91,254,717	10,688	11,160,609	6,010,861	35,380,869
1925	1,072	88,516,534	12,866	12,337,418	6,159,443	37,649,234
1926	1,064	94,392,039	18,023	13,803,161	6,958,810	39,959,398
1927	949	98,627,203	20,382	15,662,514	7,145,990	44,809,419
1928	975	110,914,805	21,780	17,177,880	7,851,330	49,737,181
1929	1,028	122,220,364	23,897	18,608,687	9,495,825	58,534,834
Grand Totals, Mineral Industries—						
1922	**1,944**	**493,694,823**	**62,249**	**75,026,501**	**11,096,564[2]**	**182,858,578**
1923	**2,295**	**578,837,012**	**66,952**	**91,334,877**	**21,257,336**	**198,301,049**
1924	**2,214**	**632,443,946**	**64,328**	**82,787,421**	**19,587,452**	**194,002,488**
1925	**2,354**	**632,075,145**	**65,090**	**85,103,118**	**20,565,800**	**215,201,873**
1926	**2,427**	**688,750,008**	**77,931**	**94,216,813**	**23,518,304**	**241,138,661**
1927	**2,350**	**714,073,000**	**84,674**	**104,220,892**	**22,960,284**	**251,077,661**
1928	**2,345**	**841,967,982**	**89,448**	**115,954,022**	**23,432,001**	**279,820,914**
1929—Canada	**2,386**	**867,021,033**	**95,102**	**124,490,511**	**26,751,585**	**315,181,388**
Nova Scotia[3]	70	67,356,948	14,745	21,035,756	2,436,137	28,529,875
New Brunswick	36	4,945,074	1,354	1,236,200	168,830	2,407,456
Quebec	412	146,332,805	19,678	16,886,275	6,703,881	57,313,685
Ontario	1,012	302,937,672	24,924	34,897,624	9,766,197	116,174,844
Manitoba	43	18,020,285	1,819	2,375,990	992,386	5,423,628
Saskatchewan	72	6,097,476	1,421	1,139,373	173,677	2,211,708
Alberta	396	142,942,397	13,824	19,915,537	1,476,468	33,883,239
British Columbia	321	170,575,223	16,882	26,073,143	4,943,945	66,256,597
Yukon	24	7,813,153	455	930,613	90,064	2,980,356

[1] Gross value less freight and treatment charges. [2] Electricity was not included in 1922. [3] Includes a small production from P.E.I.

A summary of the principal statistics of the mining, metallurgical, structural materials and clay products industries operating in Canada in 1929 is presented in Table **7**. The values of the metallic production given in Tables **6** and **7** are as reported by the operating companies, and are in each case the settlements received for shipments. The totals, therefore, indicate more nearly the actual return to the different industries than do the values for the several metals in Table **2** of this chapter, where, in the cases of copper, lead, zinc and silver, the values are computed by using the average prices for the year in the principal metal markets. Some imported ores and concentrates are treated in Canadian non-ferrous smelting and refining works. The net value of the products of these plants includes therefore the net value of the metals recovered from these imported ores and to this extent the net value of production shown in Tables **6** and **7** includes products not of Canadian origin. For this reason, the total of metallic production in Table **7** is greater instead of less than that in Table **2**.

The total production of the fuel industries in Table **7** is less than the total production of fuels in Table **2**, because the production of the industries is confined to that for which the operators receive some economic return, while the production of the fuel commodities includes all of those commodities produced whether the producer actually receives payment in any form for them or not. Thus in coal mining, the value of production in Table **7** includes only coal sold, supplied to employees for domestic consumption, or used in making coke and briquettes, whereas the figures of coal production as shown in Table **2** include, in addition to the above, coal consumed for power and other purposes in the coal-mining operations and also the difference between coal put on the bank and lifted from the bank. Petroleum producers have a larger monetary return than the actual value of the petroleum produced because many oil wells also produce large quantities of natural gas. On the other hand, the natural gas industry receives a smaller return than the total value of all natural gas produced because some of the gas is produced by the petroleum industry, because of leakage or other loss in piping gas to the consumers, and because a small amount of natural gas is produced by private individuals or groups from their own wells for their own consumption without any industrial organization intervening between production and consumption.

For other non-metallic minerals and structural materials and clay products, returns to the producing industries are the same in each case as the total value of the mineral commodities produced.

Of the industries engaged in exploiting the mineral resources of Canada in 1929, coal mining was the greatest in the number of employees engaged, although the non-ferrous metallurgical industry exceeded coal mining slightly in the amount of capital involved and in the net value of production. Auriferous quartz mining was third in net production and in capital invested and second in number of employees and amount of salaries and wages. Other large mineral industries with a net production valued at over $10,000,000 in 1929 were silver-lead-zinc mining and milling, copper-gold-silver mining and milling, cement manufacturing, asbestos mining and milling and stone quarrying.

7.—Summary of Principal Statistics relative to the Mining, Metallurgical, Structural Materials and Clay Products Industries Operating Plants in Canada, by Industries, 1929.

Industry.	Firms.	Capital Employed.	Employees.	Salaries and Wages Paid.	Cost of Fuel and Electricity.	Net Value[1] of Bullion, Ore, Concentrates Shipped from the Mines and Smelters.
	No.	$	No.	$	$	$
METALLIC MINERALS.						
Alluvial gold mining	68	7,237,850	488	586,193	2,969	836,006
Auriferous quartz mining and milling	80	135,166,105	8,660	14,258,733	2,579,481	37,275,986
Copper-gold-silver mining and milling	144	52,546,697	5,243	8,498,755	1,035,133	21,859,907
Silver-cobalt mining and milling	27	15,820,435	1,149	1,532,333	407,952	3,918,316
Silver-lead-zinc mining and milling	149	50,573,661	4,153	6,482,392	793,139	22,748,089
Nickel-copper mining and milling	2	19,448,290	3,219	5,105,875	184,363	7,967,640
Miscellaneous metal mines	8	6,050	94	42,837	10,217	6,400
Non-ferrous metal smelting and refining	7	146,699,085	8,119	13,772,393	6,208,733	68,438,022[2]
Totals, Metallic Minerals	**485**	**427,498,173**	**31,125**	**50,279,511**	**11,221,987**	**163,050,366**
NON-METALLIC MINERALS.						
Fuels.						
Coal mining	357	141,766,727	29,739	42,376,378	3,657,355	59,584,545
Natural gas	145	68,592,709	1,953	2,275,147	41,590	8,555,971
Petroleum	231	54,526,398	2,221	3,748,689	293,354	4,368,374
Totals, Fuels	733	264,885,834	33,913	48,400,214	3,992,299	72,508,890

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[1] Net value here is gross value less freight and treatment charges.

[2] Value of shipments from metallurgical works, less estimated cost of ores, concentrates, matte, etc. treated, irrespective of their origin. The major part of the value of ores treated is included as products of mines and mills, but some imported ores are also treated in these Canadian smelters.

7.—Summary of Principal Statistics relative to the Mining, Metallurgical, Structural Materials and Clay Products Industries Operating Plants in Canada, by Industries, 1929—concluded.

Industry.	Firms.	Capital Employed.	Employees.	Salaries and Wages Paid.	Cost of Fuel and Electricity.	Net Value[1] of Bullion, Ore, Concentrates Shipped from the Mines and Smelters.
	No.	$	No.	$	$	$
Other Non-Metallic Minerals.						
Abrasives	9	790,791	154	152,805	18,942	122,684
Asbestos	7	33,248,957	3,391	4,410,535	1,335,610	13,172,581
Feldspar	19	223,443	209	164,440	14,122	340,471
Gypsum	17	7,438,605	987	1,054,213	281,019	3,345,696
Iron oxides	4	159,523	48	47,324	13,564	115,932
Mica	14	281,295	83	47,362	355	118,549
Quartz	19	1,000,232	279	189,451	27,340	561,527
Salt	8	4,576,543	424	516,453	249,664	1,578,086
Talc and soapstone	5	654,635	86	74,300	21,395	229,198
Miscellaneous	38	4,042,638	506	545,216	79,463	1,502,574
Totals, Other Non-Metallic	140	52,416,662	6,167	7,202,099	2,041,474	21,087,298
Totals, Non-Metallic Minerals	**873**	**317,302,496**	**40,080**	**55,602,313**	**6,033,773**	**93,596,188**
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS.						
Clay Products.						
Brick and tile	173	27,503,688	4,740	4,694,434	2,605,532	11,068,520
Clay sewer pipe	3	3,694,716	391	495,666	216,462	1,478,071
Fire brick and other fire clay products[3]	6	2,295,498	244	359,294	80,875	1,031,644
Stoneware and pottery	4	696,154	155	177,620	17,515	326,408
Totals, Clay Products	186	34,190,056	5,530	5,727,014	2,920,384	13,904,643
Other Structural Materials.						
Cement	8	50,881,818	2,546	3,523,595	4,347,219	19,337,235
Lime	46	7,404,677	1,382	1,393,092	1,183,313	5,908,610
Sand and gravel	541	9,154,055	8,758	2,505,225	285,491	7,317,814
Stone	247	20,589,758	5,681	5,459,761	759,418	12,066,532
Totals, Other Structural Materials	842	88,030,308	18,367	12,881,673	6,575,441	44,630,191
Totals, Clay Products and Other Structural Materials	**1,028**	**122,220,364**	**23,897**	**18,608,687**	**9,495,825**	**58,534,834**
Grand Totals, Mineral Industries.	**2,386**	**867,021,033**	**95,102**	**124,490,511**	**26,751,585**	**315,181,388**

[3] Includes kaolin and other clays.

Subsection 1.—Metallic Mineral Industries.

The metal-mining and milling section included, in 1929, 478 active mining operators and 7 metallurgical companies. Employees numbering 31,125 were engaged in the metallic group, receiving salaries and wages amounting to $50.279,511. The capital employed was $427,498,173, and the net value of bullion, concentrates or residues shipped from the mines, and products made by the smelters, was $163,050,366. This included some production by the smelters from imported ores.

Alluvial gold mining carried on throughout the various parts of the Yukon and British Columbia employed 488 persons who received $586,193 in salaries and wages for six to eight months' activity. There were 85 auriferous, quartz mines operating, of which 38 produced bullion or shipped ores, and the remainder carried on development work only. The provinces in order of importance, with the number of operating mines in each, were:—Ontario, 52; British Columbia, 17; Nova Scotia, 7; Quebec, 6; and Manitoba, 3. The employees numbered 8,660 and received $14,258,733 in salaries and wages.

The copper-gold-silver industry continued to expand in 1929. The number of employees in the industry increased from 4,777 in 1928 to 5,243 in 1929, while the salaries and wages increased from $6,764,309 to $8,498,755.

The silver-cobalt mining industry, located mainly about Cobalt, with important outlying fields in South Lorrain, 20 miles to the south, and at Gowganda, 50 miles to the west, produces the major portion of the silver output of Ontario. In 1929 in the Cobalt area there were 26 properties on which operations were carried on; in the South Lorrain field 3 mines were operated and in Gowganda 3 mines. Activity in this industry has declined in recent years owing to the drop in the price of silver an dthe depletion of the mines.

The nickel-copper industry, the mines and smelters of which are situated in the vicinity of Sudbury, enjoyed greater activity during 1929. Employees in the mines and mills in 1929 numbered 3,219, receiving $5,105,875 in salaries and wages, as compared with 1,963 workers, receiving remuneration of $3,136,838, in the preceding year.

The silver-lead-zinc industry showed increases in the number of employees, salaries and wages, capital invested, and in the number of operating mines. The greatest activity was centred in the Kootenay section of British Columbia, where the most important Canadian lead-zinc mines are situated. British Columbia reported 145 operating mines. The Yukon was represented by 9 mines. Eight Quebec properties carried on operations, while the industry was represented in Ontario by 5 properties. There was one lead-zinc property operating in Nova Scotia. The employees in 1929 numbered 4,153, with salaries and wages of $6,482,392, as compared with 3,680 receiving $5,531,634 in 1928.

The capital employed by the metallurgical works amounted to $146,699,085. Employees numbered 8,119, who received $13,772,393 in salaries and wages. The estimated cost of ores and concentrates treated in the smelters was $41,416,446, while the gross value of the products of the metallurgical industry was $109,854,468.

Subsection 2.—Non-Metallic Mineral Industries.

The non-metallic minerals group is divided into two sub-groups, *viz., Fuels,* including the coal mining, natural gas and petroleum industries; and *Other Non-Metallic Minerals,* of which the asbestos, gypsum and salt-producing industries are the most important. The whole group in 1929 included 873 active concerns with 40,080 employees receiving $55,602,313 in salaries and wages. The capital employed was $317,302,496, and the aggregate value of production $93,596,188.

Coal Mining.—There were 413 coal mines operating in Canada during 1929, of which 281 were in Alberta, 58 in Saskatchewan, 36 in Nova Scotia, 11 in New Brunswick, 26 in British Columbia and 1 in the Yukon. The total capital employed was nearly $142,000,000, of which $56,000,000 was invested in Nova Scotia, $56,000,000 in Alberta and $24,000,000 in British Columbia. The average number of wage-earners employed throughout the year was 28,227. Earnings per man-day were $5.49, as compared with $5.57 in the previous year, and the total of salaries and wages amounted to $42,376,378, or $944,433 less than the 1928 total of $43,320,811.

Asbestos.—The asbestos industry was represented by 7 firms operating 14 mines at which there were mills for the grading of the product. The amount of capital employed was $33,248,957. Employment was furnished to 3,391 persons, and salaries and wages amounted to $4,410,535.

Other Non-Metallic Mineral Industries.—Other industries of importance from the standpoint of employment furnished were:—(1) petroleum production, with 2,221 employees, (2) natural gas production, with 1,953 employees, (3) gypsum mining, with 987 employees, and (4) salt mining, with 424 employees.

Subsection 3.—Structural Materials and Clay Products Industries.

The average number of employees in the group in 1929 was 23,897, the salary and wage account being $18,608,687. The average number on the payrolls of the cement industry increased from 2,407 in 1928 to 2,546 in 1929. The chief division of the clay products industry consisted of 173 establishments actively engaged in the manufacture of brick and tile. In the clay products industry, the average yearly wage for all workers advanced from $998 in 1928 to $1,036 in 1929, as 5,530 employees received $5,727,014 in salaries and wages.

The sand and gravel and the stone production industries have shown marked expansion during the period since 1922. From that year to 1929 production of sand and gravel increased in value from $3,503,000 to $7,318,000 and salaries and wages paid from $685,000 to $2,505,225, while stone production during the same period increased in value from $5,990,000 to $12,067,000 and salaries and wages in the stone industry from $2,673,000 to $5,460,000.

Section 4.—Production of Metallic Minerals.

Subsection 1.—Gold.

Canada has been a gold-producing country for over 70 years. The discovery of gold in paying quantities was an epoch-making event in the history of British Columbia. In the late '50's, alluvial gold was discovered along the Thompson river, and in 1858 the famous Fraser River rush took place. The extraordinarily rich deposits of Williams and Lightning creeks, in the Cariboo district, were discovered in 1860, and three years later the area had a production of alluvial gold valued at $4,000,000. In the northern part of the province, the Atlin division of the Cassiar district was discovered in 1892. While British Columbia still produces some gold from alluvial operations, the chief source of the gold production of the province is now lode-mining of ores in which gold is associated with other metals.

The discovery of gold in the Yukon river was reported in 1869, and bar-mining on the tributaries of the Yukon was conducted with increasing profit between 1881 and 1886. Ten years later, rich discoveries were made in creeks of the Klondike river, a right-bank tributary joining the Yukon at what is now Dawson city, and one of the greatest rushes in history was made to this locality. The richest streams in the district were Bonanza creek and its principal tributary, the Eldorado.

Gold was discovered in Nova Scotia in 1860. Two years after the discovery, gold valued at nearly $142,000 was recovered from the quartz veins; a steady, though in recent years declining, output has been reported since that time.

Although Quebec produced gold as early as 1823, production consisted only of the small quantities recovered in the treatment of the lead and zinc ores of the Notre-Dame-des-Anges district and from the gravels of the Chaudière river. Important discoveries of copper-gold deposits, however, were more recently made in the northwestern part of the province, adjacent to the Kirkland Lake district of Ontario, and development already carried out indicates a substantial gold production. Smelting facilities became available for this region with the opening of the Noranda smelter in December, 1927, and the production for Quebec since then shows the resulting increase (Tables **8** and **9**).

Although gold was first discovered during 1866 in Hastings Co., no permanent gold industry was established in Ontario until recent years. Gold has been found and worked at many points in Ontario from the lake of the Woods in the west to the Hastings district in the east, a distance of roughly 900 miles. The gold production of the province has increased greatly during the last 19 years, the Porcupine area having been the principal producer since 1912, and the increase in production of the Kirkland Lake camp during the past few years has added materially to the total output.

The presence of gold-bearing ores in Manitoba has been known for a decade or more. Discoveries have been made in two districts, the first north of The Pas, where the gold occurs in both auriferous quartz and copper ores, and the second east of lake Winnipeg in the Rice Lake area, where the discoveries are mainly auriferous quartz.

Gold production in Canada attained its former maximum in 1900, when the Yukon production reached its highest point and 1,350,057 fine oz. of gold were produced. For the provinces, the years in which the greatest yields were obtained were as follows:—Nova Scotia, 1902; Quebec, 1930; Ontario, 1930; Manitoba, 1930; Alberta, 1896; British Columbia, 1913 and Yukon, 1900. The quantities and values of gold produced in Canada are given for 1911 and subsequent years in Tables **8** and **9**, 1930 establishing a new record of production with 2,107,073 fine oz. The annual production of gold now ranks second in value among the minerals of Canada, being exceeded by coal only.

8.—Quantities of Gold Produced in Canada, by Provinces, calendar years, 1911-1930

NOTE.—For the years 1862 to 1910, see Canada Year Book, 1916-17, pp. 268 and 269.

Year.	Nova Scotia.	Quebec.	Ontario.	Manitoba.	Alberta.	British Columbia.	Yukon Territory.	Total.
	oz. fine.	oz. fine.	oz. fine.	oz. fine.	oz. fine.	oz. fine.	oz. fine.	oz. fine.
1911	7,781	613	2,062	–	10	238,496	224,197	473,159
1912	4,385	642	86,523	–	73	251,815	268,447	611,885
1913	2,174	701	219,801	–	–	297,459	282,838	802,973
1914	2,904	1,292	268,264	–	48	252,730	247,940	773,178
1915	6,636	1,099	406,577	–	195	273,376	230,173	918,056
1916	4,562	1,034	492,481	–	82	219,633	212,700	930,492
1917	2,210	1,511	423,261	440	–	133,742	177,667	738,831
1918	1,176	1,939	411,976	1,926	27	180,163	102,474	699,681
1919	850	1,470	505,739	724	24	167,252	90,705	766,764
1920	690	955	564,995	781	–	124,808	72,778	765,007
1921	439	635	708,213	207	49	150,792	65,994	926,329
1922	1,042	–	1,000,340	156	–	207,370	54,456	1,263,364
1923	655	667	971,704	31	–	200,140	60,144	1,233,341
1924	1,047	883	1,241,728	1,180	–	245,719	34,825	1,525,382
1925	1,626	1,602	1,461,039	4,424	–	219,227	47,817	1,735,735
1926	1,678	3,680	1,497,215	188	–	225,866	25,601	1,754,228
1927	3,151	8,331	1,627,050	182	42	183,094	30,935	1,852,785
1928	1,290	60,006	1,578,434	19,813	68	196,617	34,364	1,890,592
1929	2,687	90,798	1,622,267	22,455	5	154,204	35,892	1,928,308
1930[1]	1,272	141,743	1,736,855	28,197	–	163,490	35,516	2,107,073

[1] Figures for 1930 are subject to revision.

9.—Values of Gold Produced in Canada, by Provinces, calendar years, 1911-1930.

Note.—For the years 1862 to 1910, see Canada Year Book, 1916–17, p. 270.
(Value calculated on basis 1 fine oz.=$20·671834.)

Year.	Nova Scotia.	Quebec.	Ontario.	Manitoba.	Alberta.	British Columbia.	Yukon Territory.	Total.
	$	$	$	$	$	$	$	$
1911	160,854	12,672	42,625	–	207	4,930,145	4,634,574	9,781,077
1912	90,638	13,270	1,788,596	–	1,509	5,205,485	5,549,296	12,648,794
1913	44,935	14,491	4,543,690	–	–	6,149,027	5,846,780	16,598,923
1914	60,031	26,708	5,545,509	–	992	5,224,393	5,125,374	15,983,007
1915	137,180	22,720	8,404,693	–	4,026	5,651,184	4,758,098	18,977,901
1916	94,305	21,375	10,180,485	–	1,695	4,540,216	4,396,900	19,234,976
1917	45,685	31,235	8,749,581	9,095	–	2,764,693	3,672,703	15,272,992
1918	24,310	40,083	8,516,299	39,814	558	3,724,300	2,118,325	14,463,689
1919	17,571	30,388	10,454,553	14,966	500	3,457,406	1,875,039	15,850,423
1920	14,263	19,742	11,679,483	16,145	–	2,580,010	1,504,455	15,814,098
1921	9,075	13,127	14,640,062	4,279	1,013	3,117,147	1,364,217	19,148,920
1922	21,540	–	20,678,862	3,225	–	4,286,718	1,125,705	26,116,050
1923	13,540	13,788	20,086,904	641	–	4,137,261	1,243,287	25,495,421
1924	21,643	18,253	25,668,795	24,393	–	5,079,462	719,897	31,532,443
1925	33,612	33,116	30,202,357	91,452	–	4,531,824	988,465	35,880.826
1926	34,687	76,072	30,950,180	3,886	–	4,669,065	529,220	36,263,110
1927	65,137	172,217	33,634,108	3,762	868	3,784,889	639,483	38,300,464
1928	26,667	1,240,434	32,629,126	409,571	1,406	4,064,434	710,367	39,082,005
1929	55,545	1,876,961	33,535,234	464,186	103	3,187,680	741,954	39,861,663
1930[1]	26,294	2,930,088	35,903,978	582,884	–	3,379,638	734,181	43,557,063

[1] Subject to revision.

With the exception of the years 1891 and 1893, when its output was surpassed by that of Nova Scotia, British Columbia was the chief gold producer for a period of 39 years, or up to the year 1897. Its production was then less than that of the Yukon, which Territory held first place until 1907, when British Columbia regained the first rank and continued to lead during the next seven years, with the exception of 1912, when the Yukon was again the greatest producer. As a result of the development of the Porcupine and Kirkland Lake areas, Ontario passed the other provinces in 1914, and still holds the first place in gold production.

Ontario.—Though gold had been mined in various parts of the province, the production of the metal was comparatively small until 1912, when the first permanent camp was established in the Porcupine area. The total recorded production of gold in Ontario for the period 1887-1912 was 210,040 fine oz., of which more than 40 p.c. was obtained in the year 1912. The production rose from 219,801 fine oz. in 1913 to 492,481 fine oz. in 1916, but fell during the next two years, owing to scarcity of labour. The yield rose to 1,000,340 fine oz. in 1922 and in 1930 reached the record total of 1,736,855 fine oz.

Porcupine Area.—The Porcupine district, the most important gold-mining area of Canada, lies about 150 miles northwest of Cobalt, the present productive portion being limited to the townships of Tisdale and Deloro, an area of a few square miles.

Ordinarily from 95 to 97 p.c. of the gold in the ores mined at the Porcupine field is extracted chemically by dissolving it in a weak solution of sodium cyanide, the details of the process varying at the different mines. There are five steps in the cyanide process, which are briefly as follows:—(1) the reduction of the ore to a size where the gold particles are freed from enclosing rock; this is carried to a point where the ore is ground about as fine as cement; (2) the dissolving of the gold in sodium cyanide solution; (3) the separation of the solution containing the dissolved gold from the leached ore; (4) the precipitation of the gold from the solution by zinc dust; and (5) the refining of the precipitates.

Kirkland Lake Area.—Of the other gold-producing localities, Kirkland Lake, in Timiskaming district, has been the most important. The first gold discovery in the vicinity of Kirkland lake was made in 1911 on a claim now forming part of the Wright-Hargreaves mine. The geological formation is similar, as regards age relationship, to that of the Porcupine district. The rocks are Precambrian, the Keewatin predominating. Unlike the Porcupine, most of the productive veins are found within the porphyry, which is a syenitic variety. Three principal zones of mineralization have been indicated by exploration:—(1) the main or central zone, which runs in a northeasterly direction along the southern expanse of the lake and along which is a group of important producing mines; (2) a southerly zone which lies three-quarters of a mile to the south; and (3) a northerly zone known as the Goodfish Lake gold area.

British Columbia.—The production of gold in British Columbia has varied considerably at different periods. Rapid increases took place between 1858 and 1863, when 189,318 fine oz. were obtained by placer mining. Thereafter a decline occurred until 1893, when a low level of 18,360 fine oz. was reached. Then the introduction of lode mining resulted in a rapidly increasing production until 1902, when previous records were surpassed by an output of more than 288,000 fine oz. With the exception of the maximum output of 297,459 fine oz. in 1913, the record of 1902 has not since been equalled. Though the bulk of the gold obtained in the Cordilleran region has been derived from the placer deposits of the central portion of the region from the Klondike on the north almost to the International Boundary on the south, yet a large amount, averaging 178,039 fine oz. between 1913 and 1921, was obtained by lode mining, largely of the copper-gold ores of the Rossland and Yale boundary districts. The copper concentrates of the Britannia mine also contain gold, as does the blister copper made at Anyox. The output of gold in British Columbia has been in part maintained by the successful operation of the Premier mine on the Portland canal, while the Nickel Plate property, operated by the Hedley Gold Mining Co., has been a consistent producer of gold bullion and arsenical gold concentrates, which are exported to the United States for treatment. The Pioneer gold mine in the Lillooet district has reported a substantial production of gold during the past two years and provision is being made to expand production.

World Production.—A sketch of the development of the gold-mining industry since the discovery of America may take the form of a reference to four successive periods. During the first period, extending from 1493 to 1760, the annual production averaged nearly 337,000 fine oz. The placer mining of Brazil and Colombia swelled the average output of the last 60 years of the period to about 606,000 fine oz. per year.

The production of Russia from placer mining was a considerable factor in the next period, extending from 1761 to 1840, that country retaining first rank among the world's producers until 1837. The average annual production during the period was 565,500 fine oz.

The third period, extending from 1841 to 1890, was notable for the remarkable discoveries of gold in California and Australia in 1848 and 1851 respectively. The annual average during the 50 years was 4,937,000 fine oz. For the first decade the average was 1,761,000 fine oz. and for the second 6,448,000, while in the last decade it shaded off to 5,201,000. The production of the period was contributed chiefly by the United States, Australia and Russia.

In the fourth period, extending from 1891 to the present time, the outstanding features were the entry of South Africa as an important and then as the leading producer, and the phenomenal increase in the output of most of the gold-producing countries through the introduction of the cyanide process. The output was 6,320,000 fine oz. in 1891, and a steady increase was recorded until 1915, when a maximum of 22,737,000 fine oz. was produced. Thereafter the great increase in wages and in the other costs of production of an article of fixed value brought about a steady decline to a minimum production of 15,451,945 fine oz. in 1922, increased to 17,790,597 fine oz. in 1923, to 19,025,942 in 1925 and to 19,755,622 in 1928.

In 1929 the world's chief producers were the Union of South Africa, with a production of 10,412,326 fine oz. or 53·4 p.c., the United States, producing 2,056,629 fine oz. or 10·5 p.c., and Canada, producing 1,928,308 fine oz. or 9·9 p.c. As Australia, Rhodesia and British India were also important producers, over 72 p.c. of the world production of 1929 was produced in the British Empire. Preliminary figures for 1930 show that Canada has exceeded the United States in gold production and now ranks second to South Africa.

Detailed statistics of world gold production for 1928 and 1929 follow:—

10.—Quantities and Values of the World Production of Gold and Silver for the calendar years 1928 and 1929.

(From the Annual Report of the Director of the United States Mint.)

Country.	Calendar Year 1928.				Calendar Year 1929.			
	Gold.		Silver.		Gold.		Silver.	
	Quantity.	Value.	Quantity.	Value ($0·57070 per oz.).[1]	Quantity.	Value.	Quantity.	Value ($0·58627 per oz.).[1]
	oz. fine.	$	oz. fine.	$	oz. fine.	$	oz. fine.	$
North America—								
United States...	2,144,720	44,335,300	58,426,004	34,253,413	2,056,629	42,514,300	61,233,321	32,840,042
Canada..........	1,890,592	39,082,005	21,936,407	12,860,657	1,928,308	39,861,664	23,143,261	12,411,962
Mexico..........	699,102	14,451,721	108,537,307	63,632,167	651,873	13,475,411	108,700,372	58,297,097
Totals.........	4,734,414	97,869,026	188,899,718	110,746,237	4,636,810	95,851,375	193,076,954	103,549,101
Central America and West Indies[2].	60,469	1,250,000	2,558,548	1,500,000	53,212	1,100,000	2,796,890	1,500,000
South America—								
Argentina[3].......	968	20,000	15,000	8,794	1,000	20,672	15,000	8,045
Bolivia..........	506	10,460	5,638,756	3,305,833	1,499	30,985	4,816,220	2,582,987
Brazil...........	100,115	2,069,561	25,591	15,003	107,381	2,219,762	21,026	11,276
Chile............	28,806	595,473	1,436,719	842,305	28,806	595,473	1,436,719	770,527
Colombia.......	40,323	833,555[5]	68,228	40,000[3]	48,375	1,000,000[3]	60,000[3]	32,179
Ecuador.........	74,572	1,541,540	79,804	46,778	67,328	1,391,793	96,511	51,760
Guiana -								
British........	5,325	110,086	7,500[3]	4,397	6,385	131,995	7,500[3]	4,022
Dutch.........	5,498	113,654			2,975	61,503		
French........	45,460	939,742			46,183	954,696		
Peru.............	66,904	1,383,028	21,607,693	12,667,942	122,138	2,524,816	21,495,169	11,528,074
Venezuela.......	48,257	997,561	4,019[3]	2,356	43,206	893,155	4,019[3]	2,155
Totals.........	416,734	8,614,660	28,883,310	16,933,417	475,276	9,824,850	27,952,164	14,991,025

For footnotes see end of table, p. 358.

10.—Quantities and Values of the World Production of Gold and Silver for the calendar years 1928 and 1929—continued.

(From the Annual Report of the Director of the United States Mint.)

Country.	Calendar Year 1928.				Calendar Year 1929.			
	Gold.		Silver.		Gold.		Silver.	
	Quantity.	Value.	Quantity.	Value ($0·57070 per oz.).[1]	Quantity.	Value.	Quantity.	Value ($0·58627 per oz.).[1]
	oz. fine.	$	oz. fine.	$	oz. fine.	$	oz. fine.	$
Europe—								
Austria	321	6,636	18,904	11,083	–	–	10,578	5,673
Czechoslovakia	6,944	143,545	767,678	450,067	5,015	103,669	722,989	387,746
France	54,013	1,116,548	360,080	211,104	54,012[5]	1,116,527	360,080[5]	193,115
Germany	5,434	112,331	5,220,839	3,060,821	5,819	120,289	5,512,760	2,956,548
Great Britain	129	2,667	32,761	19,207	12	248	35,976	19,294
Greece	482[5]	9,964	241,125[5]	141,364	482[5]	9,964	241,125[3]	129,318
Italy	1,865	38,553	514,400	301,577	1,543	31,897	518,676	278,171
Norway	–	–	398,660	233,722	–	–	322,336[6]	172,872
Poland	–	–	235,113	137,840	–	–	360,659	193,425
Roumania	62,628	1,294,636	99,986	58,619	71,148	1,470,760	90,727	48,658
Russia	1,200,000[3]	24,806,201	380,000[3]	222,783	1,000,000[3]	20,671,835	300,000[3]	160,893
Spain	726	15,000[3]	2,526,443	1,481,178	483	10,000[3]	2,659,223	1,426,168
Sweden	14,000[3]	289,406	75,000[3]	43,970	10,000[3]	206,718	75,000[3]	40,223
Yugoslavia	14,468	299,080	62,693	36,755	18,455	381,499	79,989	42,899
Totals	1,361,010	28,134,567	10,933,682	6,410,090	1,166,969	24,123,406	11,290,118	6,055,003
Asia—								
British India	376,058	7,773,809	7,425,810	4,353,530	363,869	7,521,840	7,298,327	3,914,166
China	100,000[3]	2,067,183	100,000[3]	58,627	50,000[3]	1,033,592	50,000[3]	26,816
Chosen (Korea)	166,412	3,440,041	56,084	32,880	141,667	2,928,517	54,723	29,348
Dutch East Indies	110,242	2,278,904	2,031,976	1,191,287	107,899	2,230,470	1,967,934	1,055,423
Federated Malay States	18,693	386,419	–	–	24,431	505,041	–	–
Indo-China	257	5,313	53,176	31,175	514	10,625	3,183	1,707
Japan	334,061	6,905,654	5,144,878	3,016,288	334,061[5]	6,905,654	5,144,878[5]	2,759,250
Philippine Islands	106,641	2,204,465	36,394	21,337	160,626	3,320,434	101,465	54,419
Sarawak	200[3]	4,134	–	–	1,405	29,044	–	–
Taiwan	9,012	186,295	11,747	6,887	9,012[5]	186,295	11,747[5]	6,300
Turkey	900[3]	18,605	220,000[3]	128,979	900[3]	18,605	220,000[3]	117,988
Totals	1,222,476	25,270,822	15,080,065	8,840,990	1,194,384	24,690,117	14,852,257	7,965,417
Oceania—								
Australia—								
New South Wales	12,831	265,240	9,055,241	5,308,816	11,096	229,375	9,000,000[3]	4,826,790
Northern Territory	100	2,067	–	–	44	910	–	–
Queensland	13,277	274,460	22,034	12,918	9,476	195,886	52,663	28,244
South Australia	532	10,997	–	–	643	13,292	–	–
Victoria	33,917	701,127	1,454	852	26,275	543,152	909	488
West Australia	393,408	8,132,465	55,554	32,570	377,176	7,796,920	49,834	26,726
Tasmania	3,603	74,481	669,326	392,406	5,597	115,700	864,354	463,562
Papua	55,573	1,148,805	55,000[3]	32,245	(See New Guinea, below.)			
New Guinea—								
Australian	55,573	1,148,805	–	–	36,281	750,005	50,000[3]	26,816
British (Papua)	–	–	–	–	1,729	35,735	–	–
New Zealand	118,714	2,454,036	445,811	261,366	116,848	2,415,463	416,262	223,245
Totals	687,528	14,212,483	10,304,420	6,041,173	585,165	12,096,438	10,434,022	5,595,871
Africa—								
Algeria	–	–	117,412	68,835	–	–	166,955	89,540
Belgian Congo	138,116	2,855,111	10,609	6,220	172,838	3,572,879	12,000[3]	6,436
Bechuanaland	1,748	36,134	141	83	1,725	35,659	162	87
British West Africa (Gold Coast, Ashanti, Nigeria)	157,901	3,264,103	–	–	208,053	4,300,837	–	–

For footnotes see end of table, p. 358.

19.—Quantities and Values of the World Production of Gold and Silver for the calendar years 1928 and 1929—concluded.

(From the Annual Report of the Director of the United States Mint.)

Country.	Calendar Year 1928.				Calendar Year 1929.			
	Gold.		Silver.		Gold.		Silver.	
	Quant'ty.	Value.	Quant'ty.	Value ($0·57070 per oz.).[1]	Quant'ty.	Value.	Quantity.	Value ($0·58627 per oz.).[1]
	oz. fine.	$	oz. fine.	$	oz. fine.	$	oz. fine.	$
Africa—*con.*								
Egypt	64	1,323	–	–	64	1,323	–	–
Ethiopia (Abyssinia)	9,131	188,754	–	–	4,501	93,044	–	–
French West Africa	3,279	67,783	–	–	4,147[4]	85,726	–	–
Kenya Colony	814	16,827	81	47	845	17,468	131	70
Madagascar	7,169	148,196	–	–	6,012	124,279	–	–
Portuguese East Africa	4,239	87,628	327	192	375	7,752	54	29
Rhodesia—								
Northern	602	12,444	88	52	699	14,450	13,242	7,102
Southern	576,112	11,909,292	103,802	60,856	560,813	11,593,034	87,232	46,783
Southwest Africa	542	11,204	–	–	377	7,790	–	–
Swaziland	347	7,173	–	–	90	1,859	–	–
Sudan	5,835	120,620	–	–	2,459	50,825	–	–
Tanganyika	12,828	265,178	1,575	923	9,581	198,057	1,061	569
Union of South Africa	10,354,264	214,041,633	1,031,376	604,665	10,412,326	215,241,881	1,031,779	553,353
Totals	11,272,991	233,033,403	1,265,411	741,873	11,384,905	235,346,863	1,312,616	703,969
Totals for World	**19,755,622**	**408,384,961**	**257,925,154**	**151,213,780**	**19,496,721**	**403,033,049**	**261,715,021**	**140,360,386**

[1] Average price per fine ounce in London.
[2] Estimate based on United States imports of ore and bullion.
[3] Estimate based on other years' production.
[4] Last year's figures.
[5] Amount exported.
[6] For year ended June 30.

Subsection 2.—Silver.

Although no official statistics of the production of silver were published prior to 1887 the annual reports of the operating companies showed that from 1869 to 1885 about 4,000,000 oz. of silver, with a probable value of $4,800,000, were produced in the Port Arthur district in Ontario. From 1887 to 1893 the annual production ranged in value between $300,000 and $400,000, and was derived chiefly from Ontario and Quebec. The next three years saw a rapid increase in production, due to the development of the silver-lead deposits of British Columbia, and in 1896 a production worth over $2,000,000 was recorded. From 1896 to 1905 the production varied in value between $2,000,000 and $3,500,000, rising rapidly during the next five years to $17,580,455 in 1910, as a result of the discovery of the rich ores of the Cobalt district. Since then there has been a falling-off in quantity, but owing to the higher price of the metal the value of the annual production increased to a maximum of $20,693,704 in 1918. The post-war depression and the decline in the value of silver caused a low value of production in 1921, but the industry recovered, and Canada in 1929 retained its place as the third largest producer of silver in the world, ranking after Mexico and the United States and followed fairly closely by Peru.[1]

The silver production of Canada is chiefly credited to the rich silver-cobalt ores of northern Ontario, the copper-gold-silver and the silver-lead-zinc ores of

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[1] Preliminary figures for 1930 are 26.435,935 fine oz. valued at $10,086,367 compared with a production of 23,143.261 fine oz. valued at $12.264 308 in 1929.

British Columbia and the silver-lead ores of the Yukon Territory. A certain amount of silver also occurs in combination with the gold ores of northern Ontario and the nickel ores of the Sudbury district.

Ontario.—The production of silver in Ontario in 1929 was 8,890,726 fine oz., valued at $4,711,462, practically the whole of which was derived from the rich silver-bearing ores of the Cobalt district, but small quantities were obtained from the products of the nickel refineries and from gold bullion.

The Cobalt camp was discovered in 1903, when the Timiskaming and Northern Ontario Railway was being built from North Bay to the head of lake Timiskaming. This was at Long lake, subsequently christened "Cobalt lake", and the surrounding area became known as the Cobalt silver camp.

From 1904 to 1911 the output of silver increased rapidly year by year. In 1911 the province of Ontario reported a production from that camp of 31,507,791[1] fine oz., the value of which was $15,953,847. In 1912 the output was nearly as great, being 30,243,859[1] fine oz., but prices had gone up and the value was greater, namely, $17,408,935. Since that time the production has been declining, but the life of the camp has been prolonged by the finding of "blind" veins and by improvements in the methods of extraction which have permitted the working of ores of a grade too low for profit by the former methods.

The Gowganda camp, which lies about 55 miles northwest of Cobalt, has been the source of much high-grade silver ore, mainly from the Miller Lake-O'Brien and Castle-Trethewey mines. This section was more or less handicapped by its distance from the railway and lack of facilities for transportation until a good road was completed from the railway at Elk Lake, on a branch line of the Timiskaming and Northern Ontario Railway. In addition a hydro-electric power transmission line has been extended from Elk Lake to Gowganda. With these added facilities, a number of mines in the camp enlarged their operations. The history of the South Lorrain camp, which lies about 18 miles to the south-east of Cobalt, on the shore of lake Timiskaming, is characteristic. It was worked for some time and then closed, the conclusion having been reached that the camp was worked out. The Keeley mine turned out later to be extremely rich, producing in 1924 nearly 2,000,000 fine oz. of silver.

British Columbia.—In 1926 for the first time since 1905 this province surpassed Ontario in silver production. Most of the British Columbia output of silver is now derived from the ores of the Sullivan mine near Kimberley and the Premier mine at Premier. Other sources of silver in this province are the silver-lead-zinc ores of East and West Kootenay, and the gold-copper ores of the Boundary and the Coast districts.

Comparing the quantity rather than the value, production in 1930 was the greatest on record and amounted to 11,836,632 fine oz.,[2] although this record was nearly equalled in 1927 with a production of 11,040,445 fine oz. Small amounts were recovered with alluvial gold and from gold bullion, but the Sullivan and Premier mines were responsible for the greater part of the output from this province. The Sullivan, primarily noted for its lead and zinc production, is the largest producer of silver in Canada. Silver was also recovered from the copper ores and concentrates which were exported for treatment in foreign smelters and from blister copper made at the Trail and Anyox smelters.

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[1] These figures are taken from reports of the Ontario Department of Mines, by which silver production, until recent years, was computed on a different basis from that used in Table 12 following.

[2] Preliminary figures.

Yukon Territory.—The production of silver from the Yukon Territory in 1929 amounted to 3,279,530 fine oz., derived chiefly from the silver-lead ores exported from the Mayo district. For some years the difficulties and high cost of transportation involved in the export of these ores were a serious obstacle to the successful operation of the mines. However, in the summer of 1925 the Treadwell Yukon Co. of Keno Hill, the largest producer in the district, completed a concentrating plant which has since been kept working at full capacity. By eliminating much of the waste from the ores, concentration reduces the transportation costs. Ores from neighbouring mines are treated at this mill and this feature is of great assistance to the smaller operators in the district. The quantity of silver obtained from placer gold is gradually decreasing.

World Production of Silver.—The world production of silver was estimated at 261,715,021 fine oz. for 1929, an increase of 25·4 p.c. over the pre-war figure of 1913, given as 208,690,446 fine oz. The silver production of Canada in 1929 was 23,143,261 fine oz. For the quantity and value of the world's production in 1928 and 1929, see Table **10** of this chapter.

Statistics of the quantities and values of silver produced in Canada are given for the years since 1887 in Table **11**, while statistics of the quantities and values produced in the various provinces are given for 1911 and subsequent years in Table **12.**

11.—Quantities and Values of Silver Produced in Canada during the calendar years 1887-1930.

Year.	Quantity.	Value.	Year.	Quantity.	Value.	Year.	Quantity.	Value.
	oz. fine.	$		oz. fine.	$		oz. fine.	$
			1901.....	5,539,192	3,265,354	1916.....	25,459,741	16,717,121
1887.......	355,083	347,271	1902.....	4,291,317	2,238,351	1917.....	22,221,274	18,091,895
1888.......	437,232	410,998	1903.....	3,198,581	1,709,642	1918.....	21,383,979	20,693,704
1889.......	383,318	358,785	1904.....	3,577,526	2,047,095	1919.....	16,020,657	17,802,474
1890.......	400,687	419,118	1905.....	6,000,023	3,621,133	1920.....	13,330,357	13,450,330
1891.......	414,523	409,549	1906.....	8,473,379	5,659,455	1921.....	13,543,198	8,485,355
1892.......	310,651	272,130	1907.....	12,799,799	8,348,659	1922.....	18,626,439	12,576,758
1893.......	-	330,128	1908.....	22,106,233	11,686,239	1923.....	18,601,744	12,067,509
1894.......	847,697	534,049	1909.....	27,529,473	14,178,504	1924.....	19,736,323	13,180,113
1895.......	1,578,275	1,030,299	1910.....	32,869,264	17,580,455	1925.....	20,228,988	13,971,150
1896.......	3,205,343	2,149,503	1911.....	32,559,044	17,355,272	1926.....	22,371,924	13,894,531
1897.......	5,558,456	3,323,395	1912.....	31,955,560	19,440,165	1927.....	22,736,698	12,816,677
1898.......	4,452,333	2,593,929	1913.....	31,845,803	19,040,924	1928.....	21,936,407	12,761,725
1899.......	3,411,644	2,032,658	1914.....	28,449,821	15,593,631	1929.....	23,143,261	12,264,308
1900.......	4,468,225	2,740,362	1915.....	26,625,960	13,228,842	1930[1].....	26,435,935	10,086,367

[1] Preliminary figures.

12.—Quantities and Values of Silver Produced in Canada, by Provinces, during the calendar years 1911-1930.

Note.—For the years 1887 to 1910, see Canada Year Book, 1916-1917, p. 271. Nova Scotia, Manitoba and Alberta have also shown a small production in recent years.

Year.	Quebec.		Ontario.		British Columbia.		Yukon Territory.	
	oz. fine.	$	oz. fine.	$	oz. fine.	$	oz. fine.	$
1911	18,435	9,827	30,540,754	16,279,443	1,887,147	1,005,924	112,708	60,078
1912	9,465	5,758	29,214,025	17,772,352	2,651,002	1,612,737	81,068	49,318
1913	34,573	20,672	28,411,261	16,987,377	3,312,343	1,980,483	87,626	52,393
1914	57,737	31,646	25,139,214	13,779,055	3,159,897	1,731,971	92,973	50,959
1915	63,450	31,524	22,748,609	11,302,419	3,565,852	1,771,658	248,049	123,241
1916	98,610	64,748	21,608,158	14,188,133	3,392,872	2,227,794	360,101	236,446
1917	136,194	110,885	19,301,835	15,714,975	2,655,994	2,162,430	119,605	97,379
1918	178,675	172,907	17,198,737	16,643,562	3,921,336	3,794,755	71,915	69,594
1919	140,926	156,600	12,117,878	13,465,628	3,713,537	4,126,556	27,556	30,621
1920	61,003	61,552	9,907,626	9,996,795	3,327,028	3,356,971	19,190	19,363
1921	38,084	23,861	9,761,607	6,116,037	3,350,357	2,099,133	393,092	246,288
1922	-	-	10,811,903	7,300,305	7,150,937	4,828,384	663,493	447,997
1923	33,006	21,412	10,540,943	6,838,226	6,113,327	3,965,899	1,914,438	1,241,953
1924	83,814	55,972	11,272,567	7,527,933	8,153,003	5,444,657	226,755	151,429
1925	214,943	148,451	10,529,131	7,271,944	8,579,458	5,925,403	904,893	624,964
1926	375,986	233,513	9,274,965	5,760,402	10,625,816	6,599,376	2,095,027	1,301,159
1927	740,864	417,625	9,307,953	5,246,893	11,040,445	6,223,499	1,647,295	928,580
1928	908,959	528,796	7,242,601	4,213,456	10,943,367	6,366,413	2,839,633	1,651,985
1929	813,821	431,268	8,890,726	4,711,462	10,156,408	5,382,185	3,279,530	1,737,922
1930[1]	571,603	218,089	10,205,010	3,893,619	11,836,632	4,516,149	3,729,195	1,422,837

[1] Preliminary figures.

Subsection 3.—Copper.

The copper-mining industry has developed at a very rapid rate. A production of 3,505,000 lb. in 1886 had doubled 6 years later. In 1913, the output had increased over twenty-one fold, amounting to 76,976,925 lb. The extraordinary demand for war requirements resulted in an average production from 1916 to 1918 of 115,048,931 lb. In the post-war depression production dropped to less than 43,000,000 lb. in 1922, but recovered rapidly and in 1929 reached the record of 248,120,760 lb., while the preliminary estimate for 1930 indicates a further increase of 22 p.c. in that year to 303,356,644 lb. In 1929, the value of the copper produced in Canada exceeded that of gold for the first time, so that in that year copper was the second most important mineral product of the Dominion, but in 1930, owing to the decrease in price of copper, gold production returned to the second position.

Ontario.—The Sudbury deposits were first noted in 1856, but did not attract attention until 1883-4, during the period of the construction of the Canadian Pacific Railway, when a railway cutting was made through the small hill on which the Murray mine was afterwards located. During the first few years the deposits were developed for their copper content alone; not until 1887 was the presence of nickel determined and the true value of the ores made known. The nickel-copper ores of the Sudbury area are the source of nearly all the copper produced in Ontario. Under the International Nickel Co. of Canada, which is an amalgamation of the former International Nickel Co. and the Mond Nickel Co., an extensive program of expansion in the mining and metallurgical facilities of the district has been nearly completed. The Frood and Frood Extension mines, where large masses of immensely rich ore have been opened up, were brought under one control. The ore supplies are chiefly drawn from the Frood, Creighton, Levack and Garson mines. Copper-nickel matte is produced at Coniston and in a large new smelter at Copper Cliff. Much of this matte goes to the nickel refinery at Port Colborne, the remainder being shipped either to the refinery at Swansea, Wales, or to the works at Huntington, West Virginia, where monel metal is made. A subsidiary company, the Ontario Refining Co. Ltd., has completed a copper refinery at Sudbury where refined copper is produced from the blister copper which is separated from the nickel at Port Colborne. The company also operates the Acton precious metals refinery situated near London, Eng., where it recovers, in a refined state, the precious metal content of concentrates produced at both the Swansea and Port Colborne nickel refineries. The Falconbridge Nickel Mines, operating a mine in Falconbridge township, make a copper-nickel matte which is shipped to Norway for refining.

British Columbia.—The production of copper in the province during 1929 amounted to 103,903,738 lb., which was 42 p.c. of the total Canadian production for the year. This total included the blister copper produced at Anyox by the Granby Consolidated Mining, Smelting and Power Co., Ltd., the blister copper and copper in copper sulphate made by the Consolidated Mining and Smelting Co., Ltd., at Trail, and the copper estimated as recoverable from the ores and concentrates exported. The principal copper-producing mines in British Columbia are the Britannia mine on Howe sound, which ships its concentrates to Tacoma, the Hidden Creek mine on Portland canal, and the Copper Mountain mine, the last two mentioned being owned and operated by the Granby Consolidated. The Hidden Creek ores are smelted at the Anyox smelter, and the Copper Mountain ores, after being concentrated at Allenby, are shipped to the Trail and United States smelters.

Manitoba.—Much development has been carried on in the Flin Flon district of Manitoba in the last ten years, and large bodies of ore have been proven on the Flin Flon property of the Hudson Bay Mining and Smelting Co., and the Sherritt-Gordon property. About 135 miles of branch line from the Hudson Bay Railway provides these properties with transportation facilities. A smelter has been built at Flin Flon, while a large hydraulic development on the Churchill river provides the necessary power. During the 4 years 1917-1920, with the high prices prevailing for copper, ores containing 9,866,328 lb. of copper were shipped by the Mandy mine.

Quebec.—Until 1894, when Ontario took the lead, Quebec was the chief copper-producing province of Canada, the principal mines being the Eustis and Huntingdon properties in the Eastern Townships. These mines produced ores from which both copper and sulphur were recovered. There is still a small annual production from this field. Recent discoveries in the Rouyn camp of northwestern Quebec, however, have resulted in a greatly increased production of copper in 1929. These deposits lie in an easterly extension of the formations found in the Kirkland Lake area of Ontario. The first discoveries in the district were located as gold prospects; the existence of large bodies of copper and zinc ores was subsequently proved and now the production of copper exceeds in value that of gold. A branch line from the Canadian National Railways was completed into the camp during 1926, and subsequently a branch of the Timiskaming and Northern Ontario Railway was also extended to the camp. The construction of a copper smelter at the Noranda mine was completed and production began in December, 1927. Hydro-electric power is supplied from power plants on the Quinze river.

World Production of Copper.—World production of copper was estimated at 2,104,110 short tons in 1929, as compared with 1,891,610 tons in the preceding year. Canada had an output of 124,060 tons in 1929, producing about 5·9 p.c. of the world's estimated total.

13.—Quantities and Values of Copper Produced in Canada, by Provinces, calendar years 1911-1930.

NOTE.—For the years 1886 to 1910, see Canada Year Book, 1916-17, p. 272. For production in Manitoba and Yukon between 1912 and 1920, included in totals, see 1926 Year Book, p. 345.

Year.	Ontario.		Quebec.		British Columbia.		Totals.	
	lb.	$	lb.	$	lb.	$	lb.	$
1911	17,932,263	2,219,297	2,436,190	301,503	35,279,558	4,366,198	55,648,011	6,886,998
1912	22,250,601	3,635,971	3,282,210	536,346	50,526,656	8,256,561	77,832,127	12,718,548
1913	25,885,929	3,952,522	3,455,887	527,679	45,791,579	6,991,916	76,976,925	11,753,606
1914	28,948,211	3,937,536	4,201,497	571,488	41,219,202	5,606,636	75,735,960	10,301,606
1915	39,361,464	6,799,693	4,197,482	725,115	56,692,988	9,793,714	100,785,150	17,410,635
1916	44,997,035	12,240,094	5,703,347	1,551,424	63,642,550	17,312,046	117,150,028	31,867,150
1917	42,867,774	11,651,461	5,015,560	1,363,229	57,730,959	15,691,275	109,227,332[2]	29,687,989[2]
1918	47,074,475	11,593,502	5,869,649	1,445,577	62,865,681	15,482,560	118,769,434	29,250,536
1919	24,346,623	4,550,627	2,691,695	503,105	44,502,079	8,317,884	75,053,581	14,028,265
1920	32,059,993	5,596,392	880,638	153,724	45,319,771	7,911,019	81,600,691	14,244,217
1921	12,821,385	1,602,930	352,308	44,045	34,447,127	4,306,580	47,620,820	5,953,555
1922	10,943,636	1,464,477	–	–	31,936,182	4,273,700	42,879,818	5,738,177
1923	31,656,800	4,565,227	–	–	55,224,737	7,963,959	86,881,537	12,529,186
1924	37,113,193	4,833,622	1,893,008	246,546	65,451,246	8,524,370	104,457,447	13,604,538
1925	39,718,777	5,577,311	2,510,141	352,474	69,221,600	9,720,097	111,450,518	15,649,882
1926	41,312,867	4,828,964	2,674,058	368,886	89,108,017	12,292,450	133,094,942	17,490,300
1927	45,341,295	4,946,533	3,119,848	403,084	91,686,297	11,845,870	140,147,440	17,195,487
1928	66,607,510	8,770,149	33,697,949	4,909,791	102,283,210	14,902,664	202,696,046[3]	28,598,249[3]
1929	88,879,853	14,622,572	55,337,169	10,019,901	103,903,738	18,772,778	248,120,760	43,415,251
1930[1]	127,729,059	15,190,253	80,310,363	10,425,891	93,231,613	12,103,328	303,356,644[4]	37,990,226[4]

[1] Preliminary figures.
[2] Includes 39,960 lb., valued at $10,045, from New Brunswick and Alberta, not given separately.
[3] Includes 107,377 lb., valued at $15,645, from the Yukon.
[4] Includes 2,085,609 lb., valued at $270,754, from Manitoba.

14.—Copper Production of Seven Countries and of the World, 1913-1929.[1]

(In short tons of 2,000 pounds.)

Year.	United States.	Mexico.	Canada.	Chile.	Peru.	Spain and Portugal.	Japan.	World Production.
1913	614,255	58,185	38,460	46,574	30,600	39,683	73,283	1,072,674
1914	579,133	40,043	37,498	49,221	29,853	29,652	77,650	1,021,233
1915	712,126	34,128	52,016	57,680	38,269	40,895	83,108	1,188,172
1916	971,123	60,751	52,880	78,559	47,472	39,021	110,900	1,533,294
1917	961,016	52,348	55,790	112,985	49,784	45,084	119,058	1,579,675
1918	968,687	83,233	58,068	117,851	48,944	50,596	99,583	1,569,523
1919	604,642	66,661	39,789	87,721	43,243	38,581	86,468	1,069,437
1920	635,248	49,866	39,121	109,075	36,356	25,353	74,727	1,082,652
1921	238,420	13,576	22,632	65,299	36,689	36,596	59,626	600,960
1922	511,970	29,842	25,300	142,830	40,133	40,231	59,663	995,045
1923	754,000	60,538	40,230	201,042	48,684	57,115	70,315	1,411,980
1924	819,000	49,150	51,008[2]	209,855	38,495	60,713	69,378	1,522,394
1925	854,000	59,123	56,239[2]	209,654	41,180	63,933	72,413	1,589,717
1926	878,000	62,303	64,123[2]	223,015	46,703	63,933	72,277	1,637,489
1927	847,419	63,760	70,698[2]	264,242	52,438	60,351	73,381	1,682,361
1928	935,199	72,579	96,634[2]	319,549	57,830	59,427	72,796	1,891,610
1929	1,026,348	86,759	121,151[2]	348,365	59,580	56,660	82,281	2,104,110

[1] From the Year Book of the American Bureau of Metal Statistics, New York.
[2] The final official statement indicated a production of 52,229 tons in Canada during 1924, 55,725 tons in 1925, 66,547 tons in 1926, 70,074 tons in 1927, 101,348 tons in 1928 and 124,060 tons in 1929.

Subsection 4.—Lead.

Lead is obtained in Canada largely from the deposits of British Columbia. From 88,665 lb. in 1891 the production advanced to over 39,000,000 lb. in 1897, an average increase of about 6,500,000 lb. per year. Owing to the low price of silver in 1898 and labour troubles in the Slocan in 1899, the output in the latter year fell to 21,900,000 lb., but rose to 63,200,000 lb. in 1900. This increase was due to the development of two or three mines in the Fort Steele mining division, although all the lead-producing districts except Ainsworth showed a material increase in production. The output fell to 18,100,000 lb. in 1903, owing to the condition of the market affecting the production of the low-grade silver-lead ores of the East Kootenay district. An Act was passed in October, 1903, providing for the payment of bounties on lead contained in lead-bearing ores mined in Canada, and, as a direct result of the bounty, the output increased to 56,900,000 lb. in 1905, but fell off gradually to 23,800,000 lb. in 1911. A steady improvement has since been experienced, a record total of 337,946,688 lb. being reached in 1928, while production for 1929 was nearly as great at 326,522,566 lb. and the preliminary estimate for 1930 is 333,067,797 lb.

British Columbia.—In the East Kootenay district, the Consolidated Mining and Smelting Co. operates many important mines, the principal of which is the Sullivan lead-zinc mine near Kimberley. The ore averages about 11 p.c. lead, 7 p.c. zinc and 5 ounces of silver to the ton. In the West Kootenay district the ores are chiefly argentiferous galena and zinc-blende, occurring as veins in granites and slates. The ores range from 7 p.c. to 75 p.c. of lead, with considerable values of silver. The Consolidated Mining and Smelting Co. has extended its facilities for mining, milling and smelting. This accounts to a considerable extent for the rapid growth in lead production during the last few years.

Ontario.—Lead mining in Ontario is intimately associated with the successful operations of the Galetta mine and smelter. Recent discoveries in the Sudbury Basin area have disclosed bodies of lead-zinc ore. These properties are under development but very little production has come from them as yet.

15.—Quantities and Values of Lead Produced from Canadian Ores, calendar years 1901-1930.

NOTE:—For figures for the years 1887-1900, see 1929 Year Book, p. 367.

Year.	Quantity.[1]	Value.	Cents per Pound.[1]	Year.	Quantity.[1]	Value.	Cents per Pound.[1]
	lb.	$			lb.	$	
1901	51,900,958	2,249,387	4·334	1916	41,497,615	3,532,692	8·513
1902	22,956,381	934,095	4·069	1917	32,576,281	3,628,020	11·137
1903	18,139,283	768,562	4·237	1918	51,398,002	4,754,315	9·250
1904	37,531,244	1,617,221	4·309	1919	43,827,669	3,053,037	6·966
1905	56,864,915	2,676,632	4·707	1920	35,953,717	3,214,262	8·940
1906	54,608,217	3,089,187	5·657	1921	66,679,592	3,828,742	5·742
1907	47,738,703	2,542,086	5·325	1922	93,307,171	5,817,702	6·219
1908	43,195,733	1,814,221	4·200	1923	111,234,466	7,985,522	7·179
1909	45,857,424	1,692,139	3·690	1924	175,485,499	14,221,345	8·104
1910	32,987,508	1,216,249	3·687	1925	253,590,578	23,127,460	9·120
1911	23,784,969	827,717	3·480	1926	283,801,265	19,240,661	6·751
1912	35,763,476	1,597,554	4·467	1927	311,423,161	16,477,139	5·256
1913	37,662,703	1,754,705	4·659	1928	337,946,688	15,553,231	4·576
1914	36,337,765	1,627,568	4·479	1929	326,522,566	16,544,248	5·063
1915	46,316,450	2,593,721	5·600	1930[2]	333,067,797	13,109,451	3·927

[1] Previous to 1913 the figures reported show the metal content of the shipments and are somewhat in excess of the actual amount recovered. Since 1912 the data given represent the quantity of lead produced in Canada from domestic ores, together with the estimated lead recovery from lead ores and concentrates exported. From 1901 to 1908, average prices at New York; 1909 and 1910, average prices at Toronto; from 1911 to 1925, average prices at Montreal; 1926-1930 the average yearly price at London, Eng., were used in making up the values shown. [2] Preliminary figures.

World Production.—The world production of lead in 1929 was about 1,935,101[1] short tons. The principal producers were the United States with 35·5 p.c., Mexico 14·2 p.c., Australia 10 p.c., Canada 8·2 p.c., Spain 7·6 p.c. and Germany 5·6 p.c.

Subsection 5.—Nickel.

With the exception of the nickel in the ores shipped from the Cobalt district the Canadian production of nickel is derived entirely from the well-known nickel-copper deposits of the Sudbury district, Ontario. A brief description of the history and development of the nickel-copper mining industry would be found under copper in Subsection 3 of this section. From 830,477 lb. in 1889 the production of nickel increased continually to a war time peak of 92,500,000 lb. in 1918. After a slump to 19,293,000 lb. and 17,597,000 lb. in 1921 and 1922 respectively there was an increase to 73,857,114 lb. in 1925, followed by a drop to 65,714,294 lb. in 1926. In 1928 production at 96,755,578 lb. exceeded that of the war year 1918, while 1929 showed a further increase to 110,275,912 lb. Preliminary figures for production in 1930 are 103,768,857 lb.

In recent years the producing companies have instituted extensive researches to discover and encourage new peace-time uses for the metal. The success attending their efforts in that direction accounts very largely for the marked increase in production during the past few years. The automobile industry, electrical machinery, cooking utensils, new submarine cables and various nickel alloys are all helping to absorb this increased production.

Sudbury.—The nickel-bearing rocks of the Sudbury district, with a width of about two and one-half miles, form a wide ellipse 36 miles long and 13 miles broad. The ores consist mainly of a mixture of pyrrhotite and chalcopyrite associated with norite, a basic intrusive rock. The nickel occurs in the pyrrhotite as pentlandite and varies somewhat in amount. The ore mined in the district varies considerably in richness, the average metal content being about 2 to 4 p.c. of nickel, 1 to 3 p.c. of copper and 45 p.c. iron, although portions of the new Frood deposit are much richer than this especially in copper. Cobalt, gold, silver, platinum and palladium are nearly always present in very small quantities.

World Production.—The world production of nickel was about 63,800 short tons in 1929, of which output 87 p.c.[2] was Canadian in origin, while the remainder was derived from New Caledonia, India and Norway. The proved deposits of nickel ore in Canada are estimated to be sufficient to provide for the world's requirements for many years, while there are still large reserves undeveloped.

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[1] From the Year Book of the American Bureau of Metal Statistics. [2] These figures, taken from the Imperial Institute's Statistical Summary, include some nickel produced in the U.S. as a by-product from the electrolytic refining of Canadian copper; such nickel is not included in Table **16**.

16.—Quantities and Values[1] of Nickel Produced in Canada during the calendar years 1901-1930.

NOTE.—For figures for the years 1889-1900, see 1929 Year Book, p. 368.

Year.	Quantity.	Value.	Year.	Quantity.	Value.	Year.	Quantity.	Value.
	lb.	$		lb.	$		lb.	$
1901.......	9,189,047	4,594,523	1911...	34,098,744	10,229,623	1921...	19,293,060	6,752,571
1902.......	10,693,410	5,025,903	1912...	44,841,542	13,452,463	1922...	17,597,123	6,158,993
1903.......	12,505,510	5,002,204	1913...	49,676,772	14,903,032	1923...	62,453,843	18,332,077
1904.......	10,547,883	4,219,153	1914...	45,517,937	13,655,381	1924...	69,536,350	12,126,739
1905.......	18,876,315	7,550,526	1915...	68,308,657	20,492,597	1925...	73,857,114	15,946,672
1906.......	21,490,955	8,948,834	1916...	82,958,564	29,035,498	1926...	65,714,294	14,374,163
1907.......	21,189,793	9,535,407	1917...	82,330,280	33,732,112	1927...	66,798,717	15,262,171
1908.......	19,143,111	8,231,538	1918...	92,507,293	37,002,917	1928...	96,755,578	22,318,907
1909.......	26,282,991	9,461,877	1919...	4,544,883	17,817,953	1929...	110,275,912	27,115,461
1910.......	37,271,033	11,181,310	1920...	61,335,706	24,534,282	1930[2]...	103,768,857	24,455,133

[1] A change in the method of computing the value of nickel produced accounts for the drop in value after 1923. [2] Preliminary figures.

Subsection 6.—Cobalt.

The major portion of the world's supply of cobalt has for almost two decades been derived from the silver-cobalt-nickel arsenides of the Cobalt district, the cobalt produced by refineries in southern Ontario having practically controlled world production until recent years. Large deposits of cobalt-bearing ores occur in central Africa, and the introduction into the world's markets of cobalt from this source has limited the market for the Canadian product to the extent that since 1926 Canadian production has dropped to about half of the world production.

The ore bodies at Cobalt, discovered in 1903, carry silver, cobalt, nickel, bismuth and arsenic. The Deloro smelter treats ores and residues and disposes of cobalt oxide, metallic cobalt and unseparated oxides of nickel and cobalt. The cobalt residues from the cyanide process are for the most part treated in Canada, though some are shipped abroad for treatment. The smelter output of cobalt, computed as the metallic cobalt and cobalt in oxides and salts, together with the cobalt recovered in ores exported from the mines, and including cobalt in speiss residues exported, amounted in 1929 to 929,415 lb. valued at $1,801,915, as against 1,116,492 lb. valued at $2,328,517 in 1925. Production in 1930 is estimated at 694,163 lb.

Subsection 7.—Zinc.

The zinc-mining industry of Canada has recently made rapid strides, largely on account of the application of improved metallurgical methods in the treatment of the lead-zinc ores of British Columbia. The metallic recoveries from Canadian ores were 197,267,087 lb. in 1929, as compared with 5,600,000 lb. in 1913. From an insignificant position in 1913, the country advanced to the sixth rank among the world's producers in 1929, with an output of about 5·3 p.c. of the world total. Production in 1930 is estimated at 267,665,479 lb. and constitutes a record.

British Columbia.—The principal zinc-mining regions are situated in the Kootenay district of British Columbia, where there are large deposits of silver-lead-zinc ore. The chief producing mine is the Sullivan near Kimberley, where the ore worked is a replacement deposit of considerable size. Other active mines are located in the Ainsworth and Slocan divisions of the West Kootenay district.

Other Provinces.—There has been considerable exploration and development of zinc-bearing deposits in Eastern Canada during recent years. The majority of these ores are of the replacement type and are often characterized by a close association of copper, zinc and gold. In northwestern Manitoba the Flin Flon and Sherritt-Gordon mines are operating on ores of this nature. Shipments of zinc concentrates have been made from the Errington mine of the Sudbury district, Ontario, during 1929 and 1930. Important deposits of zinciferous ore have been developed in the Rouyn district of Quebec; among the more prominent properties producing or developing this class of ore are the Abana, Amulet and Waite-Ackerman-Montgomery. Zinc ores, usually complex, have been extensively mined in eastern Quebec and at the Sterling mine in Cape Breton, Nova Scotia.

The urgent demand for zinc during the Great War was largely responsible for energetic and aggressive action on the part of the Consolidated Mining and Smelting Co., owners of the Trail plant, in producing this metal; with this object in view the erection of an electrolytic zinc refinery was commenced in 1915, rushed to completion and put into operation early in 1916. The company had then to turn its attention to solving the problem of recovering the values in the complex lead-zinc ores of the famous Sullivan mine. This was largely a problem of concentration in order to separate the finely divided lead and zinc ores. From the opening of the zinc refinery in 1916 regular shipments of zinc ore were made from the Sullivan and other mines, but it was not until four years later that the problem of concentration was satisfactorily solved by the application of oil flotation methods. Since that time the production of lead, zinc and silver has rapidly increased. Recent enlargements to the plant at Trail have enabled further increases in production to be made.

17.—Production of Zinc in Canada, calendar years, 1911-1930.

Year.	Quantity.[1]	Value.	Average Price per Pound.	Year.	Quantity.[1]	Value.	Average Price per Pound.
	lb.	$	cts.		lb.	$	cts.
1911	1,877,479	108,105	5·758	1921	53,089,356	2,471,310	4·655
1912	4,283,760	297,421	6·943	1922	56,290,000	3,217,536	5·716
1913	5,640,195	318,558	5·648	1923	60,416,240	3,991,701	6·607
1914	7,246,063	377,737	5·213	1924	98,909,077	6,274,791	6·344
1915	9,771,651	1,292,789	13·230	1925	109,268,511	8,328,446	7·622
1916	23,364,760	2,991,623	12·804	1926	149,938,105	11,110,413	7·410
1917	29,668,764	2,640,817	8·901	1927	165,495,525	10,250,793	6·194
1918	35,083,175	2,862,436	8·159	1928	184,617,374	10,143,050	5·493
1919	32,194,707	2,362,448	7·338	1929	197,267,087	10,626,778	5·387
1920	39,863,912	3,057,961	7·671	1930[2]	267,665,479	9,635,957	3·600

[1] Estimated foreign smelter recoveries and refined zinc made in Canada.

[2] Preliminary figures.

Subsection 8.—Iron.[1]

The fact that iron ore is widely distributed in Canada has long been known, and extensive deposits have been discovered from time to time. The development of the iron-mining industry, however, has been retarded by the abundant supply of the higher-grade ores of Wabana, Newfoundland, and of the Mesabi range of the State of Minnesota. The production of pig iron and of steel ingots and castings in 1929 was larger than in any other year except the war years.

Nova Scotia.—The Wabana section of Newfoundland, containing one of the largest deposits of iron ore in the world, is operated by the British Empire Steel Corporation. The probable reserves in that area have been estimated at 3,635,000,000 tons, and the Wabana ore consists of an exceptionally high-grade hæmatite. Ore to the amount of 763,168 tons was shipped in 1929 to the blast furnaces of the company at Sydney, where the proximity of the adjacent coalfield favours the economical production of pig iron and steel. Development work carried on also at Torbrook, in Annapolis Co., indicates that the deposits there are very extensive; the ore is red hæmatite, containing a good percentage of iron rather high in phosphorus. An important iron ore field is the Arisaig district in Antigonish Co.

New Brunswick.—The most important deposits so far discovered are those in the Austin Brook district of Bathurst Co., where mining experts state that great masses of iron ore have been located.

Quebec.—It is estimated that there are many millions of tons of iron magnetite sands, containing a high percentage of iron, along the north shore of the St. Lawrence at Moisie, Mingan, Natashkwan and other places in Saguenay Co. The sands contain a high percentage of titanium, rendering the briquetted iron sands unfavourable for blast-furnace treatment. There are a number of deposits of bog iron ore in the St. Lawrence valley, remarkably free from sulphur and phosphorus. The bog iron ores were successfully used in charcoal blast furnaces at Radnor Forges and Drummondville for many years. Iron ore deposits also exist along the Gatineau river in Hull township, within a few miles of the city of Ottawa. The Bristol mine, in Pontiac Co., has been proved to contain large deposits of magnetite, but the ore is high in sulphur and would require roasting. It is known that Ungava or New Quebec contains large deposits of both magnetite and hæmatite.

Ontario.—The iron and steel industry in Ontario is chiefly dependent on imported ores, but several companies have demonstrated what can be done by the beneficiation of low-grade Canadian ores. The Moose Mountain iron range is situated about 35 miles north of Sudbury; over 100,000,000 tons of magnetite have been proved by the owners. The Atikokan district, west of Sabawa lake, contains approximately 15,000,000 tons of magnetite, while the Atikokan mine, to the east of the lake, has shown 10,000,000 tons. The deposits of non-Bessemer ore in the Michipicoten district are extensive, and millions of tons of red hæmatite were taken from the Helen mine. The Magpie mine produced siderite, which was roasted before being shipped to the blast furnaces at Sault Ste. Marie owned by the Algoma Steel Co. However, no discoveries have been made in Ontario of deposits of iron ore which do not require special treatment before being charged to the blast furnaces. This makes Ontario ore more expensive to treat than the high-grade ore readily available from the Mesabi range in the State of Minnesota.

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[1] A sketch of the iron and steel industry of Canada was given on pp. 452-456 of the 1922-1923 Year Book.

British Columbia.—Owing to the lack of a local iron-smelting industry, the production of iron ore in British Columbia has not reached important dimensions. On the northeast coast of Texada island there are extensive deposits estimated to contain 5,000,000 tons of magnetite. The Glen iron mine on the south side of Kamloops lake, estimated to contain reserves of 8,000,000 tons, has been worked intermittently for several years, the ore being shipped to Tacoma and to the Revelstoke Smelting Works.

18.—Iron Ore Shipments and Production of Pig Iron and of Steel Ingots and Castings, calendar years 1909-1930.

Year.	Ore Shipments from Canadian Mines.	Production of Pig Iron.						Production of Steel Ingots and Castings.
		Nova Scotia.		Ontario.		Totals.[1]		
	tons.	short tons.	$	short tons.	$	short tons.	$	short tons.
1909.....	268,043	354,380	3,453,800	407,012	6,002,441	757,162	9,581,864	754,719
1910.....	259,418	350,287	4,203,444	447,273	6,956,923	800,797	11,245,622	822,284
1911.....	210,344	390,242	4,682,904	526,635	7,606,939	917,535	12,307,125	882,396
1912.....	215,883	424,994	6,374,910	589,593	8,176,089	1,014,587	14,550,999	957,681
1913.....	307,634	480,068	7,201,020	648,899	9,338,992	1,128,967	16,540,012	1,168,993
1914.....	244,854	227,052	2,951,676	556,112	7,051,180	783,164	10,002,856	828,641
1915.....	398,112	420,275	5,463,575	493,500	5,910,624	913,775	11,374,199	1,020,896
1916.....	275,176	470,055	7,050,825	699,202	9,700,073	1,169,257	16,750,898	1,428,249
1917.....	215,302	472,147	10,387,234	684,642	13,902,867	1,170,480	25,025,960	1,745,734
1918.....	211,608	415,870	10,451,400	747,650	21,324,857	1,195,551	33,495,171	1,873,708
1919.....	197,170	285,087	7,141,641	624,993	17,104,151	917,781	24,577,589	1,030,342
1920.....	129,072	332,493	7,687,614	749,068	22,252,062	1,090,396	30,319,024	1,232,697
1921.....	59,509	169,504	4,407,104	495,489	12,882,714	665,676	17,307,576	747,582
1922.....	17,971	135,261	3,139,994	293,662	6,493,513	428,923	9,633,507	544,020
1923.....	30,752	310,972	5,360,099	674,428	15,995,496	985,400	21,355,595	990,942
1924.....	1,480	177,078	3,842,593	415,971	9,525,736	593,049	13,368,329	728,773
1925.....	3,978	226,010	4,402,674	413,247	8,040,015	639,257	12,442,689	842,803
1926.....	200	280,266	6,165,852	567,929	10,495,122	848,195	16,660,974	869,413
1927[2]....	2,029	279,495	–	515,366	–	794,861	–	1,016,555
1928[2]....	2,244	339,087	–	823,168	–	1,162,254	–	1,382,885
1929[2]....	2,748	348,097	–	861,682	–	1,209,779	–	1,543,387
1930[2][3]...	412	238,455	–	598,687	–	837,142	–	1,133,152

[1] Including a small production from Quebec in certain years. [2] Owing to the fact that much of the pig iron produced in Canada is used by the firms producing it for further manufacture in their own plants, no attempt has been made since 1926 to place a nominal value on such production. [3] Preliminary figures.

Section 5.—Production of Non-Metallic Minerals.

Subsection 1.—Fuels.

Coal.

The fuel situation of Canada is somewhat anomalous, as in spite of the enormous resources of coal in the country, about 50 p.c. of the consumption is imported from the United States. The Canadian coal areas are situated in the eastern and western provinces, while Ontario and Quebec are more easily and economically supplied with coal from the nearer coal fields of Pennsylvania and Ohio.[1] The anomaly of the situation is accentuated if we consider that Canada's present coal consumption is about 35,000,000 tons annually, as against reserves of 1,234,289,000,000 metric tons, sufficient for an unthinkably long period at the present rate of consumption.

Coal Resources.—A summary of the known coal resources of Canada was given on pages 391 to 391 of the 1922-23 Year Book; the accompanying table is reproduced as Table **19.**

19.—Coal Resources of Canada, by Provinces and Classes of Coal.[1]

(In metric tons of 2,204 pounds.)

Province or District.	Including Seams of 1 foot or over at a Depth of 4,000 feet.					Including Seams of 2 feet and over, at Depths between 4,000 and 6,000 feet.	
	Actual Reserve.			Probable Reserve.		Probable Reserve.	
	Calculation Based on Actual Thickness and Extent.			Approximate Estimate.		Approximate Estimate.	
	Area sq. miles.	Class of Coal.[3]	Thousands of tons.	Area, sq. miles.	Thousands of tons.	Area, sq. miles.	Thousands of tons.
Nova Scotia	174	B	2,188,151	204	4,911,817	73	2,639,000
New Brunswick	–	B	–	121	151,000	–	–
Ontario[4]	–	L	–	10	25,000	–	–
Manitoba	–	L	–	48	160,000	–	–
Saskatchewan	306	L	2,412,000	13,100	57,400,000	–	–
Alberta	25,300	L	382,500,000	56,375	491,271,000	203	12,700,000
		B	3,223,800		182,183,600		
		A & B	669,000		100,000		
British Columbia	439	A & B	23,831,242	6,196	44,907,700	11	2,160,000
		L	60,000		5,136,000		
Yukon		A & B	–	2,840	250,000	–	–
		L	–		4,690,000	–	–
Northwest Territories	–	L	–	300	4,800,000	–	–
Arctic Islands	–	B	–	6,000	6,000,000	–	–
Totals	**26,219**	–	**414,804,193**[2]	**85,194**	**801,986,117**	**287**	**17,499,000**

[1] See "Coal, Coke and By-Products", published by the Imperial Mineral Resources Bureau.
[2] The coal of all classes mined in Alberta to 1911, amounting to 20,000,000 tons, has been deducted.
[3] A=anthracite, B=bituminous, L=lignite.
[4] Extensive investigation has been carried on by the Ontario authorities in connection with the lignite deposits of the Moose River basin, James Bay region, and drilling was carried on throughout 1930.

In view of the abnormal conditions prevailing in Canada during the later years of the war period, and also of the falling-off of production in the United States, the Government, on July 12, 1917, appointed a Fuel Controller for Canada, charging him in the first place with the duty of stimulating shipments to Canada, and eventually extending his powers until they included the work of controlling prices and directing coal-mining operations in Canada. The Fuel Controller concluded his duties in March, 1919, but in the summer of 1922 it was again found necessary to provide machinery to handle the administrative problems directly related to the tiding-over of a threatened fuel shortage. The Dominion Fuel Board, with the Deputy Minister of the Department of Mines as chairman, was constituted on Nov. 25, 1922, to meet the need for a standing organization definitely responsible for the systematic study of the fuel position of the Dominion. The Board issued an interim report in 1923, and has since issued, in co-operation with the Department of Mines, various studies on particular fuels, notably a report, "Coke as a Household Fuel in Central Canada", published in 1925.

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[1] See map showing the sources of the coal supply of different parts of Canada, p. 386 of 1922-23 Year Book.

The coal production in 1929 amounted to 17,496,557 *short tons*, valued at $63,065,170, or an average of $3.60 per ton. This represented a decrease of 67,736 tons, or 0·4 p.c., as compared with the previous year. Nova Scotia produced 7,056,133 tons of coal in 1929, as compared with 6,743,504 tons in 1928. In the west Alberta produced 7,150,693 tons, including 3,387,844 tons of lignite, 3,094,147 tons of bituminous and 668,702 tons of sub-bituminous. Saskatchewan also produced 580,189 tons of lignite. In British Columbia the bituminous coal mined amounted to 2,490,378 tons in 1929. The preliminary figures for 1930 show decreases in all these coal-producing areas except the Yukon. The quantity of coal mined annually in five provinces and the Yukon Territory from 1909 to 1930 is shown in Table **20.**

20.—Production of Coal in Canada, by Provinces, calendar years 1909-1930.

NOTE.—For annual production by provinces from 1874 to 1908, see 1911 Year Book, p. 419.

Year.	Nova Scotia.	New Brunswick.	Saskatchewan.	Alberta.	British Columbia.	Yukon Territory.	Canada.	
							Quantity.	Value.
	tons.	tons.	tons.	tons.	tons.	tons.	tons.	$
1909	5,652,089	49,029	192,125	1,994,741	2,606,127	7,364	10,501,475	24,781,236
1910	6,431,142	55,455	181,156	2,894,469	3,330,745	16,185	12,909,152	30,909,779
1911	7,004,420	55,781	206,779	1,511,036	2,542,532	2,840	11,323,388	26,467,646
1912	7,783,888	44,780	225,342	3,240,577	3,208,997	9,245	14,512,829	36,019,044
1913	7,980,073	70,311	212,897	4,014,755	2,714,420	19,722	15,012,178	37,334,940
1914	7,370,924	98,049	232,299	3,683,015	2,239,799	13,443	13,637,529	33,471,801
1915	7,463,370	127,391	240,107	3,360,818	2,065,613	9,724	13,267,023	32,111,182
1916	6,912,140	143,540	281,300	4,559,054	2,584,061	3,300	14,483,395	38,817,481
1917	6,327,091	189,095	355,445	4,736,368	2,433,888	4,872	14,046,759	43,199,831
1918	5,818,562	268,212	346,847	5,972,816	2,568,589	2,900	14,977,926	55,192,896
1919	5,790,196	166,377	379,347	4,933,66	2,649,516	–	13,919,096	55,622,67)
1920	6,437,156	171,610	335,222	6,907,765	3,095,011	–	16,946,764	82,496,538
1921	5,734,928	187,192	335,632	5,909,217	2,890,291	233	15,057,493	72,451,656
1922	5,569,072	287,513	382,437	5,990,911	2,927,033	465	15,157,431	65,518,497
1923	6,597,838	276,617	438,100	6,854,397	2,823,306	313	16,990,571	72,058,986
1924	5,557,441	217,121	479,118	5,189,729	2,193,667	1,121	13,638,197	53,593,988
1925	3,842,978	208,012	471,965	5,869,031	2,742,252	730	13,134,968	49,261,951
1926	6,747,477	173,111	439,803	6,503,705	2,613,719	316	16,478,131	59,875,094
1927	7,071,876	203,950	470,216	6,934,162	2,746,243	414	17,426,861	61,867,463
1928	6,743,504	207,738	471,713	7,336,330	2,804,594	144	17,564,293	63,757,833
1929	7,056,133	218,706	580,189	7,150,693	2,490,378	458	17,496,557	63,065,170
1930[1]	6,252,552	209,311	578,152	5,754,752	2,083,308	653	14,878,728	53,287,813

[1] Preliminary figures.

The coal imported for consumption, less re-exports, in the calendar year 1929 amounted to 18,186,727 tons, as compared with 17,200,043 tons in the previous year. The exports of coal of domestic production in 1929 amounted to 842,972 tons, valued at $4,375,328, or an average of $5.19 per ton, as compared with 863,941 tons, valued at $4,469,999, in 1928. The imports of anthracite and bituminous coal for the fiscal years from 1901 to 1930 are given in Table **21**, and the exports from 1901 to 1930 in Table **22**.

21.—Imports into Canada of Anthracite, Bituminous and Lignite Coal for Home Consumption, calendar years 1911-1930.

NOTE.—Anthracite dust is included under anthracite coal. For previous years, see 1911 Year Book, p. 420.

Calendar Year.	Anthracite, Free of Duty.		Bituminous Coal, Dutiable.		Lignite Coal, Free of Duty.		Totals.	
	short tons.	$	short tons.	$	short tons.	$	short tons.	$
1911	4,020,577	18,794,192	10,538,315	20,498,399	–	–	14,558,892	39,292,591
1912	4,184,017	20,080,388	10,411,793	19,397,649	–	–	14,595,810	39,478,037
1913	4,642,057	22,034,839	13,559,896	25,914,280	–	–	18,201,953	47,949,119
1914	4,435,010	21,241,924	10,286,047	18,559,574	–	–	14,721,057	39,801,498
1915	4,072,192	18,753,980	8,393,710	9,591,625	–	–	12,465,902	28,345,605
1916	4,570,815	22,216,363	13,009,788	16,073,303	–	–	17,580,603	38,289,666
1917	5,320,198	28,109,586	15,537,262	42,452,771	–	–	20,857.460	70,562,357
1918	4,785,160	26,007,888	16.893,427	45,642,696	–	–	21,678,587	71,650,584
1919	4,937,095	31,595,694	12,356,162	29,565,105	–	–	17,293,257	61,160,799
1920	4,982,313	36,773,351	13,861,229	61,260,247	–	–	18,843,542	98,033,598
1921	4,553,820	40,293,639	13,748,242	48,631,095	–	–	18,302,062	88,924,734
1922	2,705,752	23,795,143	10,317,773	37,387,285	–	–	13,023,525	61,182,428
1923	5,165,382	46,457,962	15,822,240	49,899,099	2,331	12,846	20,989,953	96,369,907
1924	4,152,558	37,280,910	12,546,214	29,628,643	26,007	117,955	16,724,779	67,027,508
1925	3,782,557	32,096,509	12,548,460	26,974,340	18,653	87,832	16,349,670	59,158,681
1926	4,192.419	34,202,166	12,376.606	25.511,932	10,423	45,567	16,579,448	59,759,665
1927	4.107,854	31,282,371	14,568,671	30.457,884	10,829	44,254	18,687,354	61,784,509
1928	3,748.816	27,680,018	13,445,945	26,608,427	10,780	44,247	17,205,541	54,332,692
1929	4,019.917	28,809,792	14,170,138	27,140.968	14,108	62,508	18.204,163	56,013,268
1930[1]	4,256,090	30,098,910	14,146,070	25,858,254	–	–	18,772,721	56,694,366

[1] Preliminary figures.

22.—Exports of Coal, the Produce of Canada, calendar years 1911-1929.

NOTE.—For previous years, see 1911 Year Book, p. 421.

Calendar Year.	Quantity.	Value.	Calendar Year.	Quantity.	Value.
	short tons.	$		short tons.	$
1911	1,500,639	–	1921	1,987.251	13,896,370
1912	2,127,133	–	1922	1,818,582	11,159,060
1913	1,562,020	3,951,351	1923	1,654,406	10,661,399
1914	1,423,126	3,780.175	1924	773,246	4,836,848
1915	1,766,543	5,406,058	1925	785,910	4,329,173
1916	2,135,359	7,099,387	1926	1,028,200	5,739,436
1917	1,733,156	7,387,192	1927	1,113,330	5,890,259
1918	1.817,195	9,405,423	1928	863,941	4,469,999
1919	2,070,050	12,438,885	1929	842,972	4,375,328
1920	2,558,174	18,014,899			

Coal Consumption.—In 1929, Canada produced 17.50 million tons, exported 0·84 million tons, imported from the United States 17·66 million tons and from Great Britain 0·84 million tons, and from Russia, Newfoundland and Japan 0·12 million tons. Thus there was available for consumption a total of 35·27 million tons, including 4·02 million tons of anthracite, 26·63 million tons of bituminous, 3·95 million tons of lignite and 0·67 million tons of sub-bituminous coal. The table on the annual consumption of coal shows that Canada actually used 34·84 million tons of coal during the year, or an average of 3·556 tons per capita.

The sources of the coal consumed in Canada in the calendar years 1911-1929 are shown in Table 23; detailed figures of coal *made available for consumption* in 1929 are given in Table **24**; the difference between the totals of the two tables in the latest year is accounted for by the fact that coal received is not necessarily "cleared for consumption".

23.—Annual Consumption of Canadian and Imported Coal in Canada, 1911-1929.

Note.—For the years 1886 to 1910, see 1921 Year Book, p. 354.

Calendar Year.	Canadian.[1]		Imported Coal "Entered for Consumption".				Total.	Per capita.
			From U.S.A.	From Great Britain.	Total.[2]			
	short tons.	p.c.	short tons.	short tons.	short tons.	p.c.	short tons.	short tons.
1911	9,822,749	40·5	14,510,129	48,963	14,424,949	59·5	24,247,698	3·365
1912	12,385,696	46·0	14,557,124	38,668	14,549,104	54·0	26,934,800	3·657
1913	13,450,158	42·6	18,145,769	37,825	18,132,387	57·4	31,582,545	4·196
1914	12,214,403	45·5	14,687,853	33,101	14,637,920	54·5	26,852,323	3·490
1915	11,500,480	48·1	12,450,796	15,098	12,406,212	51·9	23,906,692	3·041
1916	12,348,036	41·3	17,576,202	4,401	17,517,820	58·7	29,865,856	3·717
1917	12,313,603	37·2	20,848,009	9,451	20,810,132	62·8	33,123,735	4·049
1918	13,160,731	37·8	21,674,826	3,761	21,611,101	62·2	34,771,832	4·175
1919	11,611,168	40·3	17,292,913	344	17,236,269	59·7	28,847,437	3·402
1920	14,025,566	42·9	18,752,981	–	18,668,741	57·1	32,694,307	3·788
1921	12,715,734	41·1	18,300,081	1,591	18,258,387	58·9	30,974,121	3·524
1922	13,044,352	50·2	12,255,555	765,980	12,962,189	49·8	26,006,541	2·909
1923	15,070,962	41·8	20,417,239	572,570	20,967,971	58·2	36,038,933	3·968
1924	12,529,358	42·8	16,405,344	317,112	16,714,143	57·2	29,243,501	3·170
1925	12,125,290	42·6	15,744,957	604,117	16,331,971	57·4	28,457,261	3·039
1926	15,449,831	48·3	16,204,405	287,299	16,565,555	51·7	32,015,386	3·329
1927	16,313,531	46·6	17,769,963	907,220	18,680,832	53·4	34,994,363	3·676
1928	16,700,352	49·3	16,515,149	682,755	17,200,043	50·7	33,900,395	3·510
1929	16,653,585	47·8	17,243,047	843,502	18,186,727	52·2	34,840,312	3·556

[1] The sum of Canadian coal mines sales, colliery consumption, coal supplied to employees, and coal used in making coke, etc., less the tonnage of coal exported.

[2] Includes small tonnages from countries other than Great Britain and United States. Deductions have been made to take account of foreign coal re-exported from Canada.

24.—Coal Output, Exports, Imports and Coal Made Available for Consumption in Canada, 1929 (short tons).

Note.—For details by provinces, see the Bureau's report "Coal Statistics for Canada, 1929", p. 23.

Grade of Coal.	Canadian Coal.		Imported from U.S.A.	Imported from Great Britain.	Imported from Other Countries.[1]	Coal Available for Consumption.
	Output.	Exported.				
	tons.	tons.	tons.	tons.	tons.	tons.
Anthracite	–	–	3,173,043	729,458	117,416	4,019,917
Bituminous	12,859,822	810,829	14,469,831	115,368	76	26,634,268
Sub-bituminous	668,702	–	–	–	–	668,702
Lignite	3,968,033	32,143	14,108	–	–	3,949,998
Totals	**17,496,557**	**842,972**	**17,656,982**	**844,826**	**117,492**	**35,272,885**

[1] Includes 117,304 tons from Russia, 76 from Newfoundland and 112 from Japan.

World Production.—The total known production of the world in 1929 amounted to about 1,515,390,000 *long tons,* towards which Canada contributed 15,621,926 *long tons* or about 1·0 p.c. Table **25** shows the production of the British Empire and the chief foreign countries in units of 1,000 long tons during each of the years from 1913 to 1929.

25.—Coal Production in the Principal Countries of the World, 1913-1929.

(In thousands of long tons of 2,240 pounds.)

BRITISH EMPIRE.

Year.	United Kingdom.	British India.	Canada.	Australia.	New Zealand.	Union of South Africa.
1913	287,431	16,208	13,404	12,418	1,888	9,583
1914	265,665	16,464	12,176	12,445	2,276	9,125
1915	253,208	17,104	11,846	11,415	2,209	8,977
1916	256,376	17,254	12,932	9,812	2,257	10,966
1917	248,500	18,213	12,542	10,232	2,068	11,444
1918	227,749	20,722	13,373	10,949	2,034	10,692
1919	229,780	22,628	12,131	10,525	1,848	9,162
1920	231,000	17,640	14,800	13,000	1,800	10,200
1921	163,251	19,303	13,444	12,878	1,809	10,645
1922	249,607	19,011	13,533	12,299	1,585	9,126
1923	276,001	19,658	15,170	12,634	1,970	11,075
1924	267,118	21,174	12,180	13,885	2,083	11,633
1925	243,176	20,904	11,723	14,503	2,115	12,127
1926	126,279	20,093	14,694	14,208	2,240	12,745
1927	251,232	22,082	15,613	14,978	2,367	12,382
1928	237,763	21,543	15,682	13,432	2,437	12,371
1929	260,633	22,145	15,622	–	–	12,831

FOREIGN COUNTRIES.

Year.	Germany.	Belgium.	France.	Czecho-slovakia.	Poland.	Nether-lands.	Japan.	United States.
1913	274,264	22,474	40,188	–	–	1,843	20,973	508,893
1914	241,288	16,445	26,141	–	–	1,898	21,935	458,505
1915	230,889	13,950	19,219	–	–	2,226	20,161	474,660
1916	246,606	16,592	20,968	–	–	2,613	22,534	526,873
1917	258,639	14,691	28,427	–	–	3,001	25,938	581,609
1918	256,979	13,668	25,899	–	–	4,804	27,579	605,546
1919	199,160	18,190	19,645	27,000	–	5,271	30,000	487,638
1920	239,285	22,029	34,114	30,587	6,553	5,251	28,775	587,737
1921	255,148	21,401	37,916	32,174	7,717	3,978	25,944	452,139
1922	262,878	20,868	43,118	28,385	24,300	4,525	27,420	425,849
1923	178,191	22,554	46,981	27,380	35,686	5,249	28,633	587,407
1924	239,494	22,986	58,065	35,066	31,793	5,975	29,801	510,369
1925	267,970	22,726	60,034	30,663	28,677	6,943	31,121	519,527
1926	280,656	24,913	65,072	32,491	35,139	8,677	28,037	591,720
1927	299,511	27,130	65,302	33,106	37,560	9,374	32,434	535,625
1928	312,090	27,108	64,524	34,459	40,047	10,941	33,471	514,369
1929	313,265	26,506	67,512	38,685	45,526	11,429	35,431	543,736

Natural Gas.—The production of natural gas has increased in value from $1,346,471 in 1910 to $9,977,124 in 1929. The producing wells in the east are in the counties of Welland, Haldimand, Norfolk, Kent, Essex, Lambton, Elgin and Bruce, in Ontario, and near Moncton, New Brunswick. The principal producing fields in Alberta are the Turner Valley (about 35 miles southwest of Calgary), Medicine Hat, Viking (about 80 miles southeast of Edmonton), Redcliff, Foremost (about 6 miles south and east of the town of Foremost), Bow Island and Wetaskiwin. Wainwright was supplied with gas from the Maple Leaf well in the Fabyan field; gas from the Barnwell and Bassano fields was also used. The quantity of gas sold or used in 1929 was 28,378,462 M cubic feet. Of the total value, Ontario was credited with about 50 p.c. Estimated production for 1930 was 29,104,570 M cubic feet valued at $9,635,704.

Petroleum.—The production of crude petroleum in Canada during 1929 was the greatest on record and amounted to 1,117,368 barrels, as compared with 624,184 barrels produced in 1928. Of this production 121,194 barrels came from Ontario, 7,499 from New Brunswick and 988,675 from Alberta. Alberta thus produced over 88 p.c. of the total for Canada and accounted for the increased production in 1929.[1] The Turner Valley field is the principal source of production in Alberta and embraces territory in which, beginning with the famous Royalite No. 4 well, a number of productive wells have recently been brought in. The wells in this field give a wet gas from which a very high grade of crude naphtha is separated. The producing horizons in Western Canada were formerly considered to be the Dakota and Kootenay shale formations of the Upper and Lower Cretaceous periods, but the Royalite No. 4 well proved that much better producing horizons existed in a lower formation, a brown porous dolomitic limestone, below the Kootenay formation. The Red Coulee field in southern Alberta near the International Boundary began producing some petroleum in 1929, while a small production has been obtained for a number of years in the Wainwright field, about 120 miles east of Edmonton, where the oil is heavy and of a lower grade. Altogether 54 oil wells were in operation in Alberta at the close of the year 1929, while drilling was in progress on 108 other wells. These drilling operations were distributed over the Turner Valley, Wainwright, Ribstone, Red Coulee and other fields. No less than 312,251 feet of well-drilling was done in Alberta during 1929, while a further 16,200 feet of drilling was done for structural information.

The principal Ontario oil fields are situated in the southwestern peninsula between lake Huron and lake Erie. The oil districts are all situated within an area underlain by Devonian strata, and the petroleum is largely obtained from the horizons in the Onondaga at varying depths in the different localities.

Subsection 2.—Other Non-Metallic Minerals.

Asbestos.—Canada produces more asbestos than any other country. The value of the annual output of asbestos has increased from less than $25,000 in 1880 to $13,172,581 in 1929, so that, except for coal, asbestos is now the most important non-metallic mineral product.[2] In 1929, world production amounted to about 420,000 long tons; of this tonnage Canada produced 273,263 long tons or 65·0 p.c., Rhodesia 38,066 tons or 9·1 p.c., South Africa 28,717 tons or 6·8 p.c., Russia, 26,000 long tons or 6·2 p.c., Cyprus, 14,110 tons or 3·4 p.c., and the United States 2,800 tons.

Quebec.—The Eastern Townships has for many years been the most productive asbestos-mining area in the world. The most important deposits are those at Black lake, in Coleraine township; at Thetford and Robertsonville, in Thetford township; at East Broughton, in Broughton township, and at Danville, in Shipton township. The veins of chrysotile asbestos traverse the serpentine in all directions, and as a rule the fibre lies at right angles to the walls of the veins. The veins vary in width from ¼ inch to ½ inch, and occasionally fibre has been obtained several inches in length. The fibre is of good quality and well adapted for spinning. In the East Broughton deposits, the serpentine occurs enclosed in a highly quartzose slate, probably of Precambrian age. In the Danville area, asbestos up to ½ inch in length occurs abundantly, and the serpentine is impregnated with fine, short fibre, giving a first-class milling material.

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[1] Preliminary figures for 1930, for Canada, established a further high record of 1,492,471 barrels.

[2] Preliminary figures for 1930 are $8,390,163.

Open-cut methods of mining are adopted almost invariably throughout the Canadian asbestos fields. Nearly all the mining companies have installed machinery for the crushing, fibrizing, screening and grading of the mine product. In addition, 10 plants in Canada manufacture asbestos products, including the following commodities:—asbestos paper and mill board; asbestos roofing of all kinds; asbestos rigid shingles; asbestos building materials; asbestos cellular and sponge-felted pipe insulation; insulating sheets and blocks; asbestos brake linings and clutch facings (woven on special looms); and asbestos packings for steam, oil and hydraulic operations.

26.—Production of Asbestos in Canada, calendar years 1909-1930.

NOTE:—Figures for the years 1896-1908 are given in the 1911 Year Book, p. 424.

Year.	Totals.[1]		Year.	Totals.[1]	
	tons.	$		tons.	$
1909	87,300	2,301,775	1920	199,573	14,792,201
1910	102,215	2,573,603	1921	92,761	4,906,230
1911	127,414	2,943,108	1922	163,706	5,552,723
1912	136,301	3,137,279	1923	231,482	7,522,506
1913	161,086	3,849,925	1924	225,744	6,710,830
1914	117,573	2,909,806	1925	273,524	8,977,546
1915	136,842	3,574,985	1926	279,403	10,099,423
1916	154,149	5,228,869	1927	274,778	10,621,013
1917	153,781	7,230,383	1928	273,033	11,238,360
1918	158,259	8,970,797	1929	306,055	13,172,581
1919	159,236	10,975,369	1930[2]	242,112	8,390,863

[1] The quantity and value of sand, gravel and rock separated as a by-product in milling asbestos are included in the totals for 1924 and previous years, but are excluded in later years.

[2] Preliminary figures.

Gypsum.—Many large deposits of gypsum occur throughout Canada, but the production is chiefly from Hants, Inverness and Victoria counties, Nova Scotia; Hillsborough, New Brunswick; Paris, Ontario; Gypsumville, Manitoba, and Falkland and Mayook, British Columbia. The Hillsborough deposit of gypsum in New Brunswick is of very high grade. Nearly 50 p.c. of Canada's production is exported in crude forms from the Nova Scotia deposits, which are conveniently situated for ocean shipping and account for about 75 p.c. of the total Canadian production. Beds of gypsum are associated with the lower Carboniferous limestones in New Brunswick and Nova Scotia. The mineral occurs in Ontario in the salt-bearing Salina formation of Upper Silurian age. Production during 1929 was 901,383 tons valued at $1,223,985 and preliminary figures for 1930 are 726,662 tons valued at $990,659.

Salt.—Practically the whole of the production comes from wells located in southwestern Ontario, but the Malagash deposits in Nova Scotia are claiming much attention and some shipments have been made from deposits near McMurray in Alberta. The deposits of Ontario occur in the Salina formation of Upper Silurian age, in which the beds of the mineral sometimes reach a thickness of 250 feet. The Canadian production was 330,264 tons in 1929,[1] as compared with 299,445 tons in 1928, 268,672 tons in 1927, 262,547 tons in 1926, 233,746 tons in 1925 and 207,979 tons in 1924.

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[1] Preliminary figures for 1930 are 263,851 tons.

Section 6.—Production of Clay Products and Other Structural Materials.

Brick and Tile.—Although the brick and tile industry is established in every province of the Dominion, production is naturally greatest near the chief centres of population, that is, in Ontario and Quebec. Here the widespread clays of glacial and post-glacial age that occur over considerable areas of the St. Lawrence Lowlands have furnished the materials for numerous brick and tile industries. Production in these industries fluctuates with building activity and reached its highest point in the year 1912. Since that time the gradual substitution of steel and reinforced concrete for brick construction has reduced the production of brick so that while the value of construction undertaken in both 1928 and 1929 is estimated to have exceeded that of 1912, the quantity of brick produced in each of the later years was only about half that of 1912. On the other hand, as will be seen from Table **27** below, the production and consumption of cement in 1929 greatly exceeded that of 1912 or 1913. The production of building brick of various types in 1929 was 453,865,000, as compared with 421,301,000 in 1928 and 894,372,000 in 1912. Preliminary figures for 1930 are 323,509,000.

Cement.—The cement industry in Canada began with the manufacture of hydraulic or natural rock cement. The first production was probably at Hull, Quebec, between 1830 and 1840. The manufacture of Portland cement began about 1889. Owing to its superior qualities of uniformity and strength, it soon superseded the older product. Portland cement consists of an accurately proportioned mixture of lime, silica and alumina. The lime is usually furnished by limestone or marl, and the silica and alumina by clay or shale. The cement industry has naturally become established where these materials are situated with good facilities for a supply of fuel and for shipment of the product to the markets. The largest production is in Quebec and Ontario, although there are also active plants in Manitoba, Alberta and British Columbia. As may be seen from the table following (Table **27**), the production of cement in 1929 established a record, and, while production was reduced in 1930, it still exceeded that of 1928. The industry thus shows a healthy recovery from the unfavourable conditions from which it suffered during the war and post-war periods. Whereas in pre-war years Canada was an importer of Portland cement, she is now an exporter of this commodity.

27.—Production of Portland Cement, by Quantities and Values, calendar years 1910-1930, and Imports and Exports, fiscal years ended Mar. 31, 1910-1930.

Year.	Production.[2]		Imports.		Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	brl.[1]	$	cwt.	$	cwt.	$
1910	4,753,975	6,412,215	490,809	158,487	-	97,380
1911	5,692,915	7,644,537	1,283,721	494,081	-	2,571
1912	7,132,732	9,106,556	2,592,025	936,425	-	3,742
1913	8,658,805	11,019,418	4,958,814	1,955,177	-	2,861
1914	7,172,480	9,187,924	709,104	322,564	-	2,393
1915	5,681,032	6,977,024	287,402	123,613	-	1,065
1916	5,369,560	6,547,728	94,136	37,048	-	5,139
1917	4,768,488	7,724,246	63,074	29,719	-	2,727
1918	3,591,481	7,076,503	26,243	17,417	-	16,909
1919	4,995,257	9,802,433	26,687	26,437	-	15,945
1920	6,651,980	14,798,070	45,458	47,156	-	660,884

For footnotes see end of table, p. 378.

27.—Production of Portland Cement, by Quantities and Values, calendar years 1910-1930, and Imports and Exports, fiscal years ended Mar. 31, 1910-1930—concluded.

Year.	Production.[2]		Imports.		Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	brl.[1]	$	cwt.	$	cwt.	$
1921	5,752,885	14,195,143	132,187	153,513	2,811,127	2,107,180
1922	6,943,972	15,438,481	24,952	34,304	810,448	578,474
1923	7,543,589	15,064,661	112,610	90,849	1,544,254	719,882
1924	7,498,624	13,398,411	61,466	75,758	1,653,685	790,249
1925	8,116,597	14,046,704	95,225	64,323	519,328	200,859
1926	8,707,021	13,013,283	95,051	71,826	3,491,875	1,498,533
1927	10,065,865	14,391,937	62,725	81,715	1,022,819	370,935
1928	11,023,928	16,739,163	73,652	90,613	900,202	310,730
1929	12,284,081	19,337,235	121,209	149,436	934,949	339,267
1930[3]	11,032,539	17,818,451	246,085	247,709	837,269	256,552

[1] The barrel of cement=350 lb. or 3½ cwt. [2] "Production" as used here means quantity and value of sales. [3] Preliminary figures.

Stone, Sand and Gravel.—While the Mineral Branch of the Dominion Bureau of Statistics presents details of the production and industrial organization of the stone industry separately from that of sand and gravel, for the sake of brevity they are here discussed together. Production of these materials has increased greatly in recent years, and the expansion in the stone industry has been chiefly in crushed stone. Thus a production of crushed stone in 1922 of 3,044,399 tons had increased in 1929 to 7,615,636 tons, while during the same period the production of sand and gravel increased from 11,666,374 tons to 27,846,945 tons, used chiefly for railway ballast, concrete and road work and building sand. The preliminary figures for 1930 show a further increase for stone to 9,878,106 tons and for sand and gravel to 29,006,338 tons. Among the developments in Canada which appear to have resulted in the increased production of these materials may be mentioned:—(1) the tendency in construction work for brick to be replaced by reinforced concrete, cement blocks, etc., as indicated above by a decline in brick production and an increase in that of cement; (2) the vast improvement during the past decade in the mileage and character of roads and highways in Canada; and (3) the improvement of railway road-beds, since, in addition to the ordinary requirements of gravel for mere maintenance of railways, lines are being better constructed to provide for heavier traffic and many of the most important stretches of railway are being re-ballasted with crushed stone.

CHAPTER XIII.—WATER POWERS.

The fresh water area of Canada is officially estimated at 180,035 square miles—an area substantially larger than the whole land area of the British Isles, and certainly larger than the fresh water area of any other country in the world. As many parts of this well-watered country are situated at a considerable height above sea-level, there are great sources of potential energy in the rapids and waterfalls of the rivers conveying the water from these areas to the sea. Water power, therefore, is among the chief natural resources of Canada, and its development has in recent years contributed materially to swell the volume of Canadian production.

This Water Power chapter of the Year Book is divided into three sections; the first describes our water powers, their development and use in industry; the second deals with the Canadian central electric station industry, which is based almost wholly upon hydro-electric power; the third treats of the public ownership of hydro-electric power in Ontario, the chief manufacturing area, and also describes the policies of the Hydro-Electric Commissions in other provinces.

Section 1.—The Water Powers of Canada.[1]

The progress of civilization in its material aspects may be measured by the extent to which the resources of nature are adapted to the uses of mankind. These resources yield, in the first instance, raw materials such as coal and iron, cotton and lumber, hides and wool, which enter into so many things that they are spoken of as basic commodities. Energy, until comparatively recently, was largely secured by the combustion of coal, and was therefore looked upon as a secondary product, whereas when produced from falling water, it is just as much a primary product as coal itself. Energy now enters so largely into the scheme of modern existence that it is recognized as a basic commodity, and statistics concern themselves with kilowatt hours of electrical energy produced as being just as important as returns covering the production of pig iron, coal or cotton, and take note of undeveloped water power as being a source of raw material just as important as uncut forests or untapped oil fields. The relationship of power to production is of such vital consequence that every nation, besides considering its own power-producing resources, is deeply interested in the similar resources of other countries, and the method of their development. To facilitate a study of world power conditions two Plenary World Power Conferences composed of representatives from 47 member states have already been held to consider the technical, economic and statistical aspects of power development. Arrangements for the future re-convening of the Conference have been provided.

Canada is richly endowed with water-power resources and is in the forefront as regards their utilization. In fact, practically every large industrial centre throughout the Dominion is now served with hydro-electric energy and has within practical transmission distance substantial reserves for the future. Over 96 p.c. of the total main plant equipment of the central electric stations of

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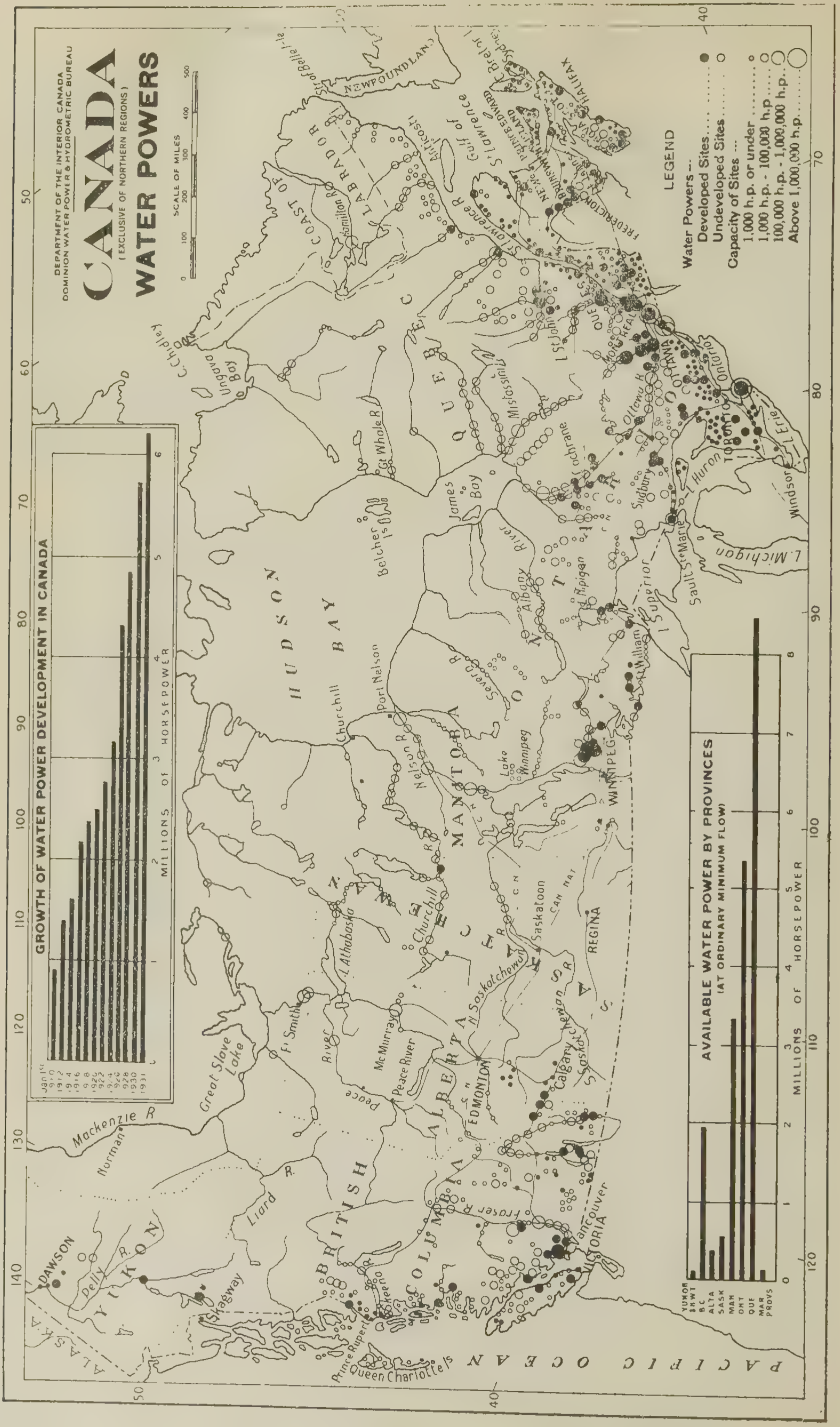
[1] By J. T. Johnston, Director, Dominion Water Power and Hydrometric Bureau, Department of the Interior.



MAP SHOWING DEVELOPED AND UNDEVELOPED WATER POWERS OF CANADA

Canada is hydro power, and this equipment generates almost 99 p.c. of the total electrical output. Indeed, water power is a mainspring of industrial progress in the central provinces, which have no indigenous coal supplies. Table 1 shows the provincial distribution of available and developed power in Canada at Jan. 1, 1931.

1.—Available and Developed Water Power in Canada, by Provinces, Jan. 1, 1931.

Province.	Available 24-hour Power at 80 p.c. Efficiency.		Turbine Installation.
	At Ordinary Minimum Flow.	At Ordinary Six Months Flow.	
1	2	3	4
	h.p.	h.p.	h.p.
Prince Edward Island	3,000	5,300	2,439
Nova Scotia	20,800	128,300	114,224
New Brunswick	68,600	169,100	133,681
Quebec	8,459,000	13,064,000	2,718,130
Ontario	5,330,000	6,940,000	2,088,055
Manitoba	3,309,000	5,344,500	311,925
Saskatchewan	542,000	1,082,000	42,035
Alberta	390,000	1,049,500	70,532
British Columbia	1,931,000	5,103,500	630,792
Yukon and Northwest Territories	294,000	731,000	13,199
Totals	**20,347,400**	**33,617,200**	**6,125,012**

The figures in columns 2 and 3 of the above table represent 24-hour power and are based upon rapids, falls and power sites of which the actual existent drop, or the head of possible concentration, is definitely known or at least well established. Innumerable rapids and falls of greater or less power capacity, which are not as yet recorded, are scattered on rivers and streams from coast to coast and will only become available for tabulation as more detailed survey work is undertaken and completed. This is particularly true of the less explored northern districts. Nor is any consideration given to the power concentrations which are feasible on rivers and streams of gradual gradient, where economic heads may be created by the construction of power dams, excepting only at points where definite studies have been carried out and the results made matters of record.

The figures in column 4 represent the actual water wheels installed throughout the Dominion, but these figures should not be placed in direct comparison with the available power figures in columns 2 and 3 for the purpose of deducing therefrom the percentage of the available water-power resources developed to date. The actual water-wheel installation throughout the Dominion averages 30 p.c. greater than corresponding maximum available power figures calculated as in column 3. The figures quoted above, therefore, indicate that the "at present recorded water-power resources" of the Dominion will permit of a turbine installation of about 43,000,000 h.p. In other words, the present turbine installation represents only a little more than 14 p.c. of the present recorded water-power resources.

The above figures may be said to represent the minimum water-power possibilities of the Dominion. To illustrate, detailed analysis of the water-power resources of the provinces of New Brunswick and Nova Scotia have disclosed most advantageous reservoir facilities for regulating stream flow. It is estimated that the two provinces possess within their respective borders 200,000 and 300,000 commercial h.p. (These figures provide for a diversity factor between installed power and consumers' demands.)

Recent Increase in Turbine Installation.—Table 2 shows the yearly increase in turbine installation by provinces from 1900 to 1930 inclusive. During the four years immediately preceding the war nearly 1,000,000 h.p. was installed, during the following eight years approximately the same installation occurred, while in the last eight years the gain was 3,116,667 h.p.

2.—Hydraulic Turbine Horse Power Installed in Canada, by Provinces, as at Dec. 31, 1900-1930.

NOTE.—Turbine horse power in Saskatchewan is reported as 30 from 1910 to 1917, 35 from 1918 to 1929, and 42,035 in 1930; installation in the Yukon was 5 from 1900 to 1906, 2,085 in 1907, 2,095 in 1908, 3,195 in 1909 and 1910; 13,195 from 1911 to 1913 and 13,199 from 1914 to 1930. These figures are included in the totals for Canada.

Year.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.	Alberta.	British Columbia.	Canada.
	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.
1900....	1,521	19,810	4,601	82,864	53,876	1,000	280	9,366	173,323
1901....	1,581	20,132	4,601	139,149	62,788	1,000	280	9,366	238,902
1902....	1,641	21,944	4,636	152,783	77,022	1,000	280	13,266	272,577
1903....	1,641	23,518	7,427	164,258	79,909	1,000	355	20,346	298,459
1904....	1,641	26,228	8,459	179,468	111,697	1,000	355	26,396	355,249
1905....	1,663	26,563	8,594	183,799	202,896	1,000	355	29,334	454,209
1906....	1,701	26,952	10,134	205,211	279,028	38,800	355	45,816	608,002
1907....	1,701	27,977	10,172	242,582	345,404	38,800	355	58,570	727,646
1908....	1,701	28,419	10,407	269,814	410,079	38,800	655	58,610	820,580
1909....	1,734	29,381	10,507	305,556	437,613	38,800	655	63,048	890,489
1910....	1,760	31,476	11,197	334,763	490,821	38,800	655	64,474	977,171
1911....	1,760	32,226	13,635	468,977	634,263	64,800	14,855	119,393	1,363,134
1912....	1,785	32,773	15,185	513,635	659,190	64,800	15,035	165,838	1,481,466
1913....	1,825	32,964	15,185	551,871	751,545	64,800	32,835	224,680	1,688,930
1914....	1,843	33,469	15,380	664,139	858,534	78,850	33,100	252,690	1,951,244
1915....	1,942	33,596	15,405	803,786	871,309	78,850	33,110	254,265	2,105,492
1916....	1,962	33,656	15,480	836,394	921,158	78,850	33,110	288,330	2,222,169
1917....	1,989	34,051	16,251	856,769	955,955	78,850	33,122	297,169	2,287,385
1918....	2,198	34,318	16,311	905,303	981,313	85,325	33,122	307,533	2,378,657
1919....	2,233	35,193	19,126	936,903	1,036,550	85,325	33,122	308,364	2,470,050
1920....	2,233	37,623	21,976	955,090	1,057,422	85,325	33,122	309,534	2,515,559
1921....	2,252	48,908	30,976	1,050,338	1,165,940	99,125	33,122	310,262	2,754,157
1922....	2,274	49,142	42,051	1,099,404	1,305,536	134,025	33,122	329,557	3,008,345
1923....	2,274	50,331	43,101	1,135,481	1,396,166	162,025	33,122	356,118	3,191,852
1924....	2,274	65,572	44,521	1,312,550	1,595,396	162,025	34,532	360,492	3,590,596
1925....	2,274	65,637	42,271	1,749,975	1,802,562	183,925	34,532	443,852	4,338,262
1926....	2,274	66,147	47,131	1,886,042	1,808,246	227,925	34,532	463,852	4,549,383
1927....	2,274	68,416	47,131	2,069,518	1,832,655	255,925	34,532	475,232	4,798,917
1928....	2,439	74,356	67,131	2,387,118	1,903,705	311,925	34,532	554,792	5,349,232
1929....	2,439	109,124	112,631	2,595,430	1,952,055	311,925	70,532	559,792	5,727,162
1930....	2,439	114,224	133,681	2,718,130	2,088,055	311,925	70,532	630,792	6,125,012

Distribution of Developed Water Power.—An analysis is made in Table 3 of the distribution of developed water power among central electric stations, pulp and paper-mills and other industries. The extent to which pulp and paper manufacturing is dependent on water power is clearly shown by the figures below, which indicate that 9·5 p.c. of the developed power is installed by pulp and paper companies, in comparison with 5·4 p.c. developed by all other industries (excluding central electric stations). The pulp and paper industry also purchases a large amount of power from the central electric stations, and over 90 p.c. of its machinery is driven by water power. The bulk of the water power used in other industries is developed by central electric stations, converted into electricity and delivered to the various industrial plants.

During the past eight years, 1923 to 1930 inclusive, 3,116,667 h.p., or more than half of Canada's present total installation of 6,125,012 h.p., was installed. At the present time there are new developments, either in course of construction or actively projected, which will add over 3,150,000 h.p. to this total, and there is every indication that the development of water power will make continued progress in the future.

3.—Developed Water Power in Canada: Distribution by Provinces and Industries, and per 1,000 Population, as at Jan. 1, 1931.

NOTE.—The figures in this table are preliminary and are subject to correction when official data are complete.

Province.	Turbine Installation.				Population June 1, 1930.	Average Installation per 1,000 Population.
	In Central Electric Stations.	In Pulp and Paper-Mills.	In Other Industries.	Total.		
1	2	3	4	5	6	7
	h.p.	h.p.	h.p.	h.p.	No.	h.p.
Prince Edward Island	376	–	2,063	2,439	85,800	28
Nova Scotia	82,797	16,008	15,419	114,224	553,900	206
New Brunswick	104,960	19,778	8,943	133,681	423,400	316
Quebec	2,360,225	222,160	135,745	2,718,130	2,734,600	994
Ontario	1,752,773	240,880	94,402	2,088,055	3,313,000	630
Manitoba	311,925	–	–	311,925	671,500	465
Saskatchewan	42,000	–	35	42,035	882,000	48
Alberta	70,320	–	212	70,532	660,000	107
British Columbia	488,960	81,000	60,832	630,792	597,000	1,057
Yukon and Northwest Territories	–	–	13,199	13,199	13,300	992
Totals	**5,214,336**	**579,826**	**330,850**	**6,125,012**	**9,934,500**	**617**

Column 2 includes only hydro-electric stations which develop power for sale.

Column 3 includes only water power *actually developed* by pulp and paper companies. In addition to this total, pulp and paper companies purchased from the hydro-power central electric stations, totalled in Column 2, electric energy estimated at about 944,000 h.p. making a total of about 1,524,000 h.p. actually developed for the manufacture of pulp and paper. A considerable amount of off-peak power and surplus power is also purchased for use in electric boilers.

Column 4 includes only water power *actually developed* in connection with industries other than the central electric station and pulp and paper industries. These industries also purchase power from the central electric stations totalled in Column 2.

Column 5 totals all water wheels and hydraulic turbines installed in Canada.

Column 6 shows the population of Canada at June 1, 1930, as estimated by the Dominion Bureau o Statistics.

Column 7 averages the developed water power per 1,000 population.

Section 2.—Central Electric Stations.[1]

The rapid growth of the central electric station industry has been stimulated by the large demand for power from the manufacturing industries, particularly pulp and paper plants, and from the domestic and commercial light customers, and also by the many improvements in generating and transmitting equipment and in electric appliances and motors. In Table 4 will be found statistics of the number of central electric stations, capital invested, revenue from sale of power, total horse-power, kilowatt hours generated and number of customers for the 13 years ended 1929, together with the number of persons employed and the amount expended for salaries and wages. According to Power Resources of the World, published by the London World Power Conference, 1929, the output of electric current in Canada for 1927 was the second largest in the world, ranking next to the United States. Canada's output in 1927 was larger than that of Germany, the next highest producer, by 2,105 million kilowatt hours. Based on preliminary figures from the larger central electric stations a total production of 18,211,000,000 kilowatt hours is estimated from all stations in 1930.

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[1] Revised by G. S. Wrong, B.Sc., Chief, Transportation and Public Utilities Branch, Dominion Bureau of Statistics. For a list of publications of this Branch see Chapter XXVIII.

The rapid increase in the production of electric energy by central electric stations is largely due to the growth of the pulp and paper industry. In 1924 the motors in the pulp and paper-mills operated on power purchased from central electric stations had a rated capacity of 315,464 h.p., or 12·4 p.c. of all power equipment in manufacturing industries (the central electric station industry excluded), and in 1928 their rated capacity had more than doubled, increasing to 859,017 h.p., which was 42 p.c. of the total power for all manufacturing industries. Also the pulp and paper industry has been using an increasing amount of electricity for heating water, and practically all the electric energy is used 24 hours per day throughout the year as against an average working day for other manufactures of 8 to 9 hours. Although the low rates are important factors in increasing the average consumption per capita for all purposes to 1,670 kilowatt hours (excluding exports), which is more than twice the average in the United States and over six times the average in Great Britain, the large consumption by the pulp and paper industry, mines and electro-chemical industries is an important factor.

There are some interesting factors affecting the relative per capita consumptions of electricity from central electric stations in Canada and the United States. An abundant supply of low priced coal in the industrial area of the United States, and no coal but an excellent supply of water power in the central provinces of Canada, tend to favour the generation of power in central stations in Canada as compared with the United States. Also the pulp and paper industry is proportionately a smaller industry in the United States than in Canada; on a power basis, the proportions are approximately 7 p.c. and 42 p.c. respectively. The average consumption for domestic use is more than twice as high in Canada as in the United States. The total consumption for domestic, or residential use, in both countries, however, is only between 12 and 15 p.c. of the total output of central electric stations.

4.—Summary of Statistics of Central Electric Stations, calendar years 1917-1929.

Year.	Number of Stations.[1]	Capital Invested.	Revenue from Sale of Power.[2]	Total Horse Power.[3]	Kilowatt Hours Generated.	Customers.	Persons Employed.	Salaries and Wages.
		$	$	h.p.	(000).	No.	No.	$
1917.....	666	356,004,168	-	1,844,571	-	-	8,847	7,777,715
1918.....	795	401,942,402	43,908,085	1,841,114	-	-	9,696	10,354,242
1919.....	805	416,512,010	47,933,490	1,907,135	5,497,204	-	9,656	11,487,132
1920.....	506	448,273,642	53,436,082	1,897,024	5,894,867	894,158	10,693	14,626,709
1921.....	510	484,669,451	58,271,622	1,977,857	5,614,132	973,212	10,714	15,234,678
1922.....	522	568,068,752	62,173,179	2,258,398	6,740,750	1,053,545	10,684	14,495,250
1923.....	532	581,780,611	67,496,893	2,423,845	8,099,192	1,112,547	11,094	14,784,038
1924.....	532	628,565,093	74,616,863	2,849,450	9,315,277	1,200,950	12,956	17,946,584
1925.....	563	726,721,087	79,341,584	3,569,527	10,110,459	1,279,731	13,263	18,755,907
1926.....	595	756,220,066	88,933,733	3,769,323	12,093,445	1,337,562	13,406	19,943,000
1927.....	629	866,825,285	104,033,297	4,173,349	14,549,099	1,381,966	14,708	22,946,315
1928.....	601	956,919,603	112,326,819	4,627,667	16,336,518	1,464,005	15,855	24,253,820
1929.....	587	1,055,731,532	122,883,446	4,925,555	17,961,840	1,555,883	16,164	24,831,821

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[1] Ecxluding non-generating stations in 1920 and subsequent years. [2] Revised to exclude duplications.
[3] Not including auxiliary plant equipment which is included in installation shown in central electric stations on p. 407.

Equipment of Central Electric Stations.—The primary power equipment of all central electric stations aggregated 4,925,555 h.p. in 1929. This included water wheels and turbines, steam reciprocating engines and turbines and internal combustion engines. The hydraulic power machines greatly predominated over the other prime movers, providing 96 p.c. of the total capacity, with steam turbines, steam reciprocating engines and internal combustion engines making up the remaining 4 p.c. Not included in the above were steam engines and internal combustion engines with a capacity of 171,888 h.p., or 3·4 p.c. of the total power capacity, installed as auxiliary or standby equipment.

Central electric stations that have no water power, but are operated by steam and internal combustion engines, are on the whole small stations. Of the 99 steam reciprocating engines installed in central electric stations in 1929, only 13 in number, or about 13 p.c., were over 500 h.p. The steam turbines averaged over 2,530 h.p. with 9 units averaging 7,827 h.p., but there were only 62 steam turbines in the industry and these were confined to 28 stations, whereas the 762 water wheels and turbines averaged 6,193 h.p.

The majority of the fuel-using stations are primarily for lighting purposes, using the cheapest fuel procurable, generally local coal. In the Prairie Provinces lignite coal is used for the steam engines, and gasolene, oil distillates and producer gas for the internal combustion engines.

Of the 346 internal combustion engines in central electric stations in 1929, 218, or 63 p.c., were in Saskatchewan, 51 in Alberta and 33 in Manitoba.

During 1929 the fuel stations produced 268,141,000 kilowatt hours at a cost for fuel of $2,191,632, an average of 0·82 ct. per kilowatt hour. This production was, however, only 1·5 p.c. of the total output, hydro-electric stations producing about 98·5 p.c. The auxiliary equipment in central stations consumed fuel valued at $824,263 and produced 88,364,000 k.w. hours.

5.—Equipment of Central Electric Stations, 1929.

Note.—K.V.A. means Kilo-volt-amperes.

Province.	Number of Power Plants.	Water Wheels and Turbines.			Steam Engines, Steam Turbines and Internal Combustion Engines.			Dynamos.		
		No.	Capacity.	Average Capacity.	No.	Capacity.	Average Capacity.	No.	Capacity.	Average Capacity.
			h.p.	h.p.		h.p.	h.p.		K.V.A.	K.V.A.
Prince Edward Island	11	9	464	52	8	3,413	427	16	3,297	206
Nova Scotia	47	44	42,623	969	40	27,125	678	84	56,849	877
New Brunswick	20	17	85,160	5,094	23	21,402	931	40	89,908	2,248
Quebec	94	242	2,211,392	9,138	10	6,386	639	256	1,895,035	7,403
Ontario	132	338	1,603,058	4,743	12	916	76	336	1,287,990	3,833
Manitoba	30	32	310,925	9,716	51	9,566	188	80	250.538	3,132
Saskatchewan	144	-	-	-	250	77,623	310	249	65,737	264
Alberta	52	17	51.520	3,058	83	57,432	692	96	88.306	920
British Columbia Yukon	55	63	413,785	6,568	30	2,765	92	94	310,359	3,302
Totals	**585**	**762**	**4,718,927**	-	**507**	**206,628**	**408**	**1,251**	**4,048,019**	**3,236**
Auxiliary Plant Equipment	-	-	-	-	125	171,888	1,375	115	146,251	1,271

Provincial Distribution of Electrical Energy.—The distribution by provinces of the electrical energy generated in central electric stations throughout Canada is shown in Table 6 for the calendar years 1925 to 1929. In the latter year about 84 p.c. of the total generated electrical energy was produced in the leading industrial provinces of Ontario and Quebec. From Table 7 it is seen that the total of electrical energy generated for export in the fiscal year ended Mar. 31, 1930, was 1,497,106,389 kilowatt hours; in the calendar year 1930 it amounted to 1,490,644,653 kilowatt hours, or 8·3 p.c. of the total amount generated in central electric stations.

6.—Electrical Energy Generated in Central Electric Stations, by Provinces, calendar years 1925-1929.

Province.	Kilowatt hours ("000" omitted).				
	1925.	1926.	1927.	1928.	1929.
Prince Edward Island	1,644	1,804	2,017	2,289	2,726
Nova Scotia	60,212	78,149	83,695	97,448	107,467
New Brunswick	41,723	47,541	53,095	73,846	125,267
Quebec	4,044,502	4,916,438	6,523,605	7,682,425	8,664,334
Ontario	4,518,844	5,321,756	5,792,820	6,064,031	6,453,510
Manitoba	515,915	616,431	875,897	1,050,898	1,108,192
Saskatchewan	66,486	74,251	85,603	98,971	119,455
Alberta	129,850	141,759	156,066	181,272	205,351
British Columbia	725,162	885,903	967,895	1,074,818	1,176,213
Yukon	6,121	9,413	8,406	11,806	
Totals	**10,110,459**	**12,093,445**	**14,549,099**	**16,337,804**	**17,962,515**

Electric Light and Power.—Electric light and power companies are subject to registration and inspection under the Electricity Inspection Act, 1907 (6-7 Edw. VII, c. 14), and the production of electrical energy for export is regulated by the Electricity and Fluid Exportation Act, 1907 (6-7 Edw. VII, c. 16). Both Acts were administered by the Department of Inland Revenue until Sept. 1, 1918, when, by Order in Council of June 3, 1918, their administration was transferred to the Department of Trade and Commerce. (See cc. 54 and 55, R.S.C., 1927.)

Electrical energy produced for export increased from 538,331,425 kilowatt hours in the fiscal year ended Mar. 31, 1911, to 1,604,212,276 kilowatt hours in 1929, but declined to 1,497,106.389 kilowatt hours in the fiscal year 1930. Figures by companies for the last four fiscal years are given in Table **7.**

7.—Electrical Energy Generated or Produced for Export under Authority of the Electricity and Fluid Exportation Act, fiscal years ended Mar. 31, 1927-1930.

Company.	1927.	1928.	1929.	1930.
	k.w. hours.	k.w. hours.	k.w. hours.	k.w. hours.
Hydro-Electric Power Commission of Ontario	842,098,700	815,324,200	797,626,900	710,680,300
Canadian Niagara Power Co., Niagara Falls, Ont.	349,174,682	419,134,522	328,903,966	303,809,900
Ontario and Minnesota Power Co., Fort Frances, Ont.	11,180,300	15,544,100	17,264,700	13,244,300
Maine and New Brunswick Electric Power Co., Ltd., Aroostook Falls, N.B.	8,874,970	9,025,832	10,164,151	11,169,874
British Columbia Electric Ry. Co., Vancouver, B.C.	779,422	900,994	807,572	641,586
Western Power Co. of Canada, Vancouver, B.C.	5,474,900	752,449	611,365	14,408
Southern Canada Power Co., Sherbrooke, Que.	238,265	747,457	610,608	416,832
Cedars Rapids Mfg. and Power Co., Cedars Rapids, Que.	389,411,705	411,764,072	443,604,762	448,396,462
West Kootenay Power and Light Co., Ltd., Rossland, B.C.	597,800	559,000	551,100	–
International Electric Co., Ltd., Stewart, B.C.	44,716	97,799	69,330	–
Maritime Electric Co., Ltd., St. Stephen, N.B.	558,614	597,982	765,522	869,296
Fraser Companies, Ltd.	223,000	407,600	3,232,300	6,788,200
Northport Power and Light Co., Northport, Wash., U.S.A.[1]	–	–	–	317,128
Northern British Columbia Power Co., Prince Rupert, B.C.	–	–	–	40,329
International Railway Co., Niagara Falls, Ont.	–	–	–	717,774
Totals	**1,608,657,074**	**1,674,856,007**	**1,604,212,276**	**1,497,106,389**

[1] Purchases from West Kootenay Power and Light Co., Rossland, B.C.

Section 3.—Public Ownership of Hydro-Electric Power.

When, in the early years of the twentieth century, it became evident that the development of hydro-electric power would become a "key industry" in Canada, more especially in its coal-less central provinces of Ontario and Quebec, a strong movement arose in favour of conserving the water powers of the country for the public benefit instead of allowing them to pass into the hands of private corporations. This "public ownership" movement developed especial strength in Ontario and finally led to the establishment of the Hydro-Electric Power Commission, the operating statistics of which are given below. In more recent years, Manitoba, Nova Scotia, New Brunswick and Saskatchewan have established Hydro-Electric Commissions on the model of the Ontario system. In Quebec and British Columbia, on the other hand, the development of hydro-electric power has been left in the hands of private corporations.

Subsection 1.—The Hydro-Electric Power Commission of Ontario.[1]

The publicly-owned hydro-electrical undertaking of Ontario—known in the province as the "Hydro"—is an organization of a large number of partner municipalities, co-ordinated into groups or systems for securing common action with respect to power supplies. It had its beginning in 1903, when, as a result of public agitation to ensure the provision of adequate supplies of electrical power for distribution throughout the province at low cost, seven municipalities united under statutory authority in appointing an investigating commission to deal with power problems. This commission, known as the Ontario Power Commission, completed its work in 1906, and in the same year the Ontario Government, by special Act, created the present Hydro-Electric Power Commission of Ontario. The operations of the undertaking have grown rapidly and in 1929 electrical service was supplied by the Commission to about 607 municipalities comprising nearly all of the cities and towns of the province, as well as many small communities and rural areas.

The providing of the power, either by generation or purchase, its transformation, transmission and delivery to the individual municipalities and to large industrial consumers, and the operation of rural power districts, are performed by the municipalities acting *collectively* through their agent and trustee, the Hydro-Electric Power Commission of Ontario. The local operations involved in the retail distribution of the electrical energy to the consumers within the limits of the various urban municipalities are performed by the municipalities *individually,* through municipal utility commissions acting under the general supervision of the Hydro-Electric Power Commission.

Capital required for plant to generate and transmit power is lent by the province, and the municipalities are under contract to repay, over a period of 40 years, the moneys thus lent, with interest in full. The local distribution systems are financed individually by the issue of municipal debentures. Provision is made, in the rates charged to the ultimate consumers, for revenue with which to retire these bonds in from 20 to 30 years.

When a municipality wishes to become a partner in the Hydro system, the Commission submits an estimate of the cost of power, delivered to the municipality. Then the question of joining the "Hydro"' is voted upon under a civic by-law, which, if passed, is followed by another to provide the money necessary for construction of the municipal distribution system.

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[1] Revised by Arthur V. White, Consulting Engineer, Engineering Department of the Hydro-Electric Power Commission, Toronto, Ontario.

The rates at which power is supplied by the Commission to the various municipalities vary with the amounts of power used, the distances from the sources of supply, and other factors. The basic principle underlying the operations of the undertaking is the provision of service "at cost". Like any other efficient business concern, the Commission and the municipal electric utilities make provision from the charges for electrical service for repairs and replacements and for obsolescence and contingencies. In addition, the sinking fund provisions ensure that as the successive issues of capital are retired, the charges for interest will be reduced. Power bills for the wholesale service given by the Commission are rendered each month to the municipal utilities at an interim estimated rate, and "credit or debit adjustment" is made at the end of the year when the Commission's books are closed and the actual cost of providing the service is determined.

The rates charged by the municipal utilities for retail service are under the control of the Commission and are designed to ensure that each class of consumer bears its appropriate share of the expenses of the undertaking. The form of rate schedule for each class of service is designed to ensure, as far as is practicable, that each consumer is charged with the cost of the service he receives.

Power Supplies.—The constantly expanding power demands of the undertaking have been met by the Commission constructing its own generating plants, by the making of long-term contracts for the purchase of power from other organizations and by acquisition of existing privately-owned generating plants. The initial requirements of the undertaking were supplied under a contract with the Ontario Power Co. of Niagara Falls, which reserved to the Commission, in 1908, a maximum of 100,000 h.p. In 1916, power was purchased from the Canadian Niagara Power Co. as well, and in the following year the Commission, through purchase, acquired the Ontario Power Co. It was at this time that the Queenston-Chippawa development was begun. In 1920, the Toronto Power Co. was purchased. In 1926-7 contracts for the supply of power up to a maximum of some 360,000 h.p. were negotiated with the Gatineau Power Co.

To supply the needs of municipalities in various parts of the province, the Commission has from time to time constructed and acquired a number of smaller generating plants, and has negotiated contracts for the purchase of power. In 1929 the bulk of its energy supplies, aggregating 4,992,937,029 kilowatt-hours, were derived from some 25 hydro-electric developments owned and operated by the Commission. Provision for the needs of the near future had been made at the end of 1929 up to an aggregate of about 1,700,000 h.p.

The largest of the plants constructed by the Commission is the Queenston-Chippawa development on the Niagara river. Diverting water from above the rapids in the upper river and returning it to the river below the rapids in the lower gorge, this plant has the distinction of being the only one to make use of the maximum head capable of economic utilization, *viz.*, about 300 feet, of the 327 feet difference in elevation between lake Erie and lake Ontario. The general scheme of development comprises: an intake structure in the Niagara river at Chippawa; the deepening and enlarging of the Welland river with a reversal of its flow for 4 miles; the construction of a canal 8¾ miles long from Montrose on the Welland river to the forebay and screen house, which are situated on the cliff above the power house, where the banks on the lower Niagara river rise more than 300 feet above the water level, about one mile south of the village of Queenston. Construction work was started in 1917 and the first unit went into commercial operation in January, 1922. The total capacity of the development is 550,000 h.p. and its cost about $76,000,000.

Hydro-Electric Power Commission Statistics.—The Canada Year Book of 1910 (p. xliii) described the turning on, Oct. 11, 1910, at Berlin (now Kitchener), Ontario, of electrical energy generated by Niagara falls. The small initial load of less than 1,000 h.p. increased rapidly and by 1915 had reached 100,000 h.p. In 1920 the total power distributed exceeded 350,000 h.p. and in 1929 it was over 1,136,000 h.p.

Table **8** shows in broad outline the growth of the co-operative municipal electrical undertaking of Ontario. It will be noted that the total capital of the undertaking, which includes investments of the Hydro-Electric Power Commission in power-producing and transmitting equipment, etc., and investments of the municipalities in distributing systems and other assets, aggregated in 1929 $314,000,000.

8.—Summary Statistics Representative of the Growth of the Ontario Hydro-Electric Power Commission's Undertaking, 1910-1929.

Year.	Municipalities Served.	Customers Served.	Total Power Distributed by Commission.	Capital of Commission and Assets of Municipal Utilities.
	No.	No.	h.p.	$
1910	10	–	2,500	2,521,000
1911	26	–	15,200	4,020,000
1912	36	–	31,000	4,576,000
1913	58	58,961	45,000	17,698,000
1914	95	96,744	77,000	25,023,000
1915	131	116,892	104,000	29,791.000
1916	191	155,052	167,000	34,917,000
1917	215	181,711	333,000	74,701,000
1918	236	194,382	316,000	87,812,000
1919	252	230,472	328,000	103,591,000
1920	266	261,582	355,000	128,334,000
1921	301	285,923	529,000	193,918,000
1922	348	364,988	605,000	220,594,000
1923	393	387,983	685,486	236,023,000
1924	418	415,922	691,198	254,189,000
1925	444	439,702	816,295	265,998,000
1926	501	448,241	928,032	274,972,000
1927	530	469,572	949,700	286,165,000
1928	560	522,770	1,032,500	297,204,000
1929	607	552,321	1,136,689	314,237,000

Table **9** shows the growth in load in the various systems during the past five years.

9.—Distribution of Power to Systems of the Ontario Hydro-Electric Power Commission, 1925-1929.

(20-minute peak horse-power—System, coincident peaks.)

System.	October, 1925.	October, 1926.	October, 1927.	October, 1928.	October, 1929.
	h.p.	h.p.	h.p.	h.p.	h.p.
Niagara	683,646	800,000	810,322	879,357	949,732
Georgian Bay	18,261	17,109	19,247	20,082	22,118
Central Ontario and Trent	37,762	41,166	43,458	47,493	[1]
St. Lawrence	5,350	6,790	8,246	9,896	[1]
Rideau	2,533	3,076	3,290	3,351	[1]
Eastern Ontario	–	–	–	–	62,035[1]
Thunder Bay	44,086	40,977	43,603	48,910	77,117
Ottawa	14,260	16,354	18,480	20,241	22,079
Nipissing	2,500	2,560	3,054	3,170	3,599
Totals	**808,398**	**928,032**	**949,700**	**1,032,500**	**1,136,689**

[1] The Central Ontario and Trent, St. Lawrence and Rideau Systems were consolidated to form the Eastern Ontario System in 1929.

The initial capital expenditure to serve some twelve municipalities amounted to about $3,600,000. Table **10** shows for the past five years the capital investment in the respective systems of the undertaking and in the associated municipal undertakings.

10.—Capital Investments in Ontario's Hydro Undertakings, 1925-1929.

Item.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$
Investments by Commission on behalf of co-operating municipalities, in generating plants and transmission systems, etc.—					
Niagara System	153,792,761	155,769,666	157,273,133	161,994,024	168,004,159
Georgian Bay System	5,069,064	5,259,250	5,315,626	5,546,340	6,310,035
St. Lawrence System	1,040,729	1,062,445	1,328,384	1,852,166	[1]
Rideau System	1,106,002	1,161,658	1,173,928	1,189,021	[1]
Eastern Ontario System[1]	–	–	–	–	18,045,388
Madawaska System[2]	–	–	–	–	1,864,647
Central Ontario and Trent System	13,911,894	14,067,963	14,260,456	14,157,631	[1]
Thunder Bay System	11,740,641	12,724,571	14,144,680	14,332,937	15,325,411
Ottawa System	29,334	46,843	143,441	201,331	537,194
Eastern Ontario Transmission Lines, etc.	–	–	–	895,237	–
Nipissing System	1,027,720	1,036,001	1,054,488	1,151,371	[3]
Northern District Systems	–	–	–	–	1,565,754[3]
Hydro-electric railways	8,473,434	9,389,900	6,696,523	6,989,347	7,259,997
Office and service buildings, construction plant, inventories, etc.	2,807,400	2,661,806	2,974,120	2,908,076	3,170,051
Miscellaneous, engineering, storage, etc.	–	262,655	7,288	–	–
Total Investments by Commission	**198,998,979**	**203,442,758**	**204,372,067**	**211,217,481**	**222,082,637**
Investments by municipalities in distributing systems and other assets (exclusive of sinking fund equity in H.E.P.C. systems, included above), all systems	70,169,505	74,692,541	81,792,678	85,986,288	92,154,281
Grand Totals	**269,168,484**	**278,135,299**	**286,164,745**	**297,203,769**	**314,236,918**

[1] The St. Lawrence, Rideau, and Central Ontario and Trent Systems were consolidated in 1929 to form the Eastern Ontario System. [2] Purchased in 1929. [3] Includes the Wahnapitae District, a major interest in the Wahnapitae Power Co. having been purchased in 1929, the Patricia District in which a development was completed in 1929, and the former Nipissing System.

Table **11** shows for the past three years the combined revenue of the Hydro-Electric Power Commission and the associated municipal electric utilities.

11.—Combined Revenue of the Ontario Hydro-Electric Power Commission and Associated Municipal Electric Utilities, 1927-1929.

Item.	1927.	1928.	1929.
	$	$	$
Revenue of the Hydro-Electric Power Commission: From municipal electric utilities, rural power districts, hydro-electric railways, and other power customers; also from Central Ontario and Trent System, Nipissing System, rural consumers, etc..(a)	23,537,107	25,561,317	28,342,574
Revenue collected by municipal electrical utilities..............(b)	24,583,022	26,376,465	29,206,685
Aggregate revenues....................................(c)	48,120,129	51,937,782	57,549,259
DEDUCT*—			
Revenue from power supplied by Commission to municipal electric utilities and hydro-electric railways............(d)	14,063,421	15,549,390	17,579,634
Combined Net Revenues..............................	**34,056,708**	**36,388,392**	**39,969,625**

*NOTE:—This deduction is made because, in the aggregate revenue (c), the cost of power supplied to the utilities and hydro-electric railways (d) is included twice, being in each of the items (a) and (b).

The total reserves of the Commission and of the municipal electric utilities for sinking fund, renewals, contingencies and insurance purposes are shown in Table **12.**

12.—Accumulated Reserves of the Ontario Hydro-Electric Power Commission and of the Local Electric Utilities of the Co-operating Municipalities, 1925-1929.

Item.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$
Niagara System..........................	14,179,953	18,625,080	23,673,223	28,989,376	35,940,823
Georgian Bay System....................	988,426	1,163,190	1,379,191	1,417,747	1,655,366
St. Lawrence System.....................	258,875	287,539	333,996	379,505	[2]
Central Ontario and Trent System.......	1,849,177	2,134,172	2,105,281	2,539,212	[2]
Rideau System..........................	121,346	154,504	212,548	258,861	[2]
Eastern Ontario System.................	–	–	–	–	3,447,044[2]
Thunder Bay System.....................	195,273	315,590	612,548	954,006	1,566,521
Ottawa System..........................	5,342	7,305	12,556	14,498	24,734
Nipissing System.......................	85,582	106,744	145,693	182,416	–
Bonnechère storage.....................	–	7,217	11,201	13,775	16,451
Service buildings and equipment.........	1,142,090[1]	433,473	465,903	499,138	542,755
Hydro-electric railways..................	–	–	156,332	140,804	133,298
Insurance—Workmen's Compensation and staff pension insurance...............	–	1,516,597	1,820,546	2,156,246	2,554,759
Total reserves of the Commission........	18,826,064	24,751,411	30,929,018	37,545,584	45,881,750
Total reserves—including surplus—of municipal electric utilities............	27,809,150	30,719,802	34,505,522	38,735,346	44,058,573
Totals, Commission and Municipal Reserves......................	**46,635,214**	**55,471,213**	**65,434,540**	**76,280,930**	**89,940,324**

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[1] Includes also reserves for Bonnechère storage and insurance. [2] The Eastern Ontario System was a consolidation in 1929 of the St. Lawrence, Central Ontario and Trent, and Rideau Systems.

Statistics of Urban Municipal Electric Utilities of Ontario Supplied by the Commission.—The Commission exercises supervisory functions over the electrical utilities owned and operated by the partner municipalities, and has introduced a uniform accounting system which enables the Commission to present in its Annual Reports consolidated balance sheets and operating reports regarding these utilities. These statistics relate to about 90 p.c. of the retail customers supplied by the undertaking.

Statistics of the assets and liabilities of the electric departments of urban municipalities served by the Hydro-Electric Power Commission are given in Table **13.** These show, for 1929, total assets of $106,909,146, as compared with liabilities of $48,095,708. Of the difference, $28,103,391 is allotted as reserves, leaving a surplus of $30,710,047. The item, " Equity in Hydro Systems ", listed under both assets and reserves, relates to the sinking fund equity acquired by the individual municipalities in their collective generation and transmission undertaking administered by the Hydro-Electric Power Commission. All other items relate to the local distributing systems operated individually by the urban municipalities which are partners in the Hydro undertaking. In computing the percentage of net debt to total assets, the equity in Hydro systems is not taken into account. It will be noted that, whereas between 1925 and 1929 total assets have increased by $29,188,052, liabilities have increased by only $5,735,352.

13.—Consolidated Statement of Assets, Liabilities, Reserves and Surplus of Electric Departments of Urban Municipalities Served by the Hydro-Electric Power Commission of Ontario for the calendar years 1925-1929.

Item.	1925.	1926.	1927.	1928.	1929.
Number of Municipalities Included	247	251	252	256	260
Assets—Plant—	$	$	$	$	$
Lands and buildings	5,768,856	6,111,163	6,486,427	7,024,647	7,469,451
Substation equipment	8,543,167	9,505,502	15,088,905	16,866,186	18,102,792
Distribution system—overhead	16,837,536	18,654,240	16,689,462	17,688,051	18,108,017
Distribution system—underground	3,388,837	3,689,570	3,278,383	3,559,288	4,823,370
Line transformers	5,079,754	5,538,605	5,985,521	6,549,674	7,312,742
Meters	5,533,484	5,963,162	6,346,661	6,839,803	7,405,479
Street lighting equipment—regular	1,256,917	1,309,608	1,399,314	1,486,646	1,594,183
Street lighting equipment—ornamental	893,186	1,103,660	1,184,036	1,203,707	1,458,350
Miscellaneous construction expenses	4,485,111	3,456,778	3,360,671	3,394,627	3,483,488
Steam or hydraulic plant	568,912	628,910	607,320	619,881	489,097
Old plant	4,549,142	4,655,423	5,095,556	5,032,089	5,093,379
Totals, plant	56,904,902	60,616,621	65,522,256	70,264,599	75,340,348
Other Assets—					
Bank and cash balance	1,700,145	2,136,291	3,014,832	1,342,367	858,734
Securities and investments	1,095,663	1,400,316	1,696,238	1,837,140	2,001,089
Accounts receivable	3,417,559	3,508,818	3,715,771	4,097,446	4,683,202
Inventories	1,711,504	1,397,668	1,412,729	1,220,186	1,365,033
Sinking fund on local debentures	5,202,452	5,599,675	6,398,910	7,071,274	7,753,614
Equity in Hydro systems	7,551,589	8,046,868	10,143,206	12,326,098	14,754,865
Other assets	137,280	33,152	31,942	153,275	152,261
Totals, Assets	**77,721,094**	**82,739,409**	**91,935,884**	**98,312,385**	**106,909,146**
Liabilities—					
Debenture balance	37,919,225	39,602,533	42,891,362	42,597,176	42,930,128
Accounts payable	3,139,068	3,118,685	2,988,622	3,074,634	3,132,145
Bank overdraft	226,148	163,726	252,362	253,144	412,057
Other liabilities	1,075,915	1,087,795	1,154,810	1,258,610	1,621,378
Totals, Liabilities	**42,360,356**	**43,972,739**	**47,287,156**	**47,183,564**	**48,095,708**
Reserves—					
For equity in H.E.P.C. system	7,551,589	8,046,869	10,143,206	12,326,097	14,754,865
For depreciation	8,699,437	9,360,322	10,319,889	11,140,796	11,911,155
Other reserves	1,157,147	947,970	1,002,917	1,117,258	1,437,371
Totals, Reserves	**17,408,174**	**18,355,161**	**21,466,012**	**24,584,151**	**28,103,391**

13.—Consolidated Statement of Assets, Liabilities, Reserves and Surplus of Electric Departments of Urban Municipalities Served by the Hydro-Electric Power Commission of Ontario for the calendar years 1925-1929—concluded.

Item.	1925.	1926.	1927.	1928.	1929.
Number of Municipalities Included	247	251	252	256	260
Surplus—					
Debentures paid	4,440,138	5,493,880	6,648,767	7,928,907	9,194,253
Local sinking fund	5,202,451	5,599,675	6,398,910	7,071,274	7,962,121
Additional operating surplus	8,309,074	9,317,954	10,135,039	11,544,489	13,553,673
Totals, Surplus	**17,952,564**	**20,411,509**	**23,182,716**	**26,544,670**	**30,710,047**
Total Liabilities, Reserves and Surplus	**77,721,094**	**82,739,409**	**91,935,884**	**98,312,385**	**106,909,146**
Percentages of net debt to total assets	57·2	55·5	54·2	50·8	47·8

In Table **14** will be found details of the earnings and expenses of the electrical distributing systems of the urban municipalities served by the Hydro-Electric Power Commission, for the five years from 1925 to 1929. The first item of expense, "power purchased", is the municipalities' share of the Commission's costs for generation, purchase, and transmission of the power in bulk; all other expenses and earnings relate to local distribution within the municipalities. A very rapid growth will be noted.

14.—Statement of Earnings and Expenses of Electric Departments of Urban Municipalities Served by the Ontario Hydro-Electric Power Commission for the calendar years 1925-1929.

Item.	1925.	1926.	1927.	1928.	1929.
Number of Municipalities Included	242	248	251	255	259
	$	$	$	$	$
Earnings—					
Domestic service	6,439,160	7,372,603	8,189,867	8,925,051	9,873,682
Commercial light	3,866,293	4,187,899	4,626,815	5,182,723	5,697,766
Commercial power	6,568,855	6,789,218	7,342,173	8,298,669	9,376,159
Municipal power	1,923,093	1,922,512	1,913,503	1,921,301	2,086,444
Street lighting	1,415,382	1,457,686	1,489,242	1,534,477	1,598,262
Rural service	37,975	37,811	13,766	48,452[1]	51,591[1]
Miscellaneous	286,451	471,134	581,913	465,792	522,781
Totals, Earnings	**20,537,209**	**22,238,863**	**24,157,279**	**26,376,465**	**29,206,685**
Expenses—					
Power purchased	11,063,123	12,185,669	13,505,584	14,688,570	16,379,163
Substation operation	417,922	450,417	430,212	420,512	461,270
Substation maintenance	207,498	286,520	275,149	247,648	274,276
Distribution system, operation and maintenance	686,345	795,515	758,747	736,160	907,817
Line transformer maintenance	75,473	74,876	94,706	88,676	93,608
Meter maintenance	156,909	189,604	214,814	218,531	242,126
Consumers' premises expenses	252,808	275,021	285,353	291,333	314,495
Street lighting, operation and maintenance	275,317	295,869	318,396	329,597	359,373
Promotion of business	217,102	234,697	220,687	249,842	250,844
Billing and collecting	521,134	557,271	605,627	638,797	695,729
General office, salaries and expenses	891,640	786,743	824,869	844,578	904,026
Undistributed expense	520,585	460,288	531,004	542,755	502,206
Truck operation and maintenance	–	–	–	–	110,631
Interest	1,889,811	1,985,234	2,063,698	2,111,050	2,152,695
Sinking fund and principal payments on debentures	1,294,027	1,347,512	1,505,626	1,601,711	1,687,202
Totals, Expenses	**18,469,694**	**19,925,236**	**21,634,472**	**23,009,761**	**25,335,462**
Surpluses	2,067,515	2,313,627	2,522,807	3,366,704	3,871,223
Depreciation charges	1,068,881	1,146,273	1,249,712	1,350,252	1,469,847
Surpluses less depreciation charges	998,634	1,167,354	1,273,095	2,016,452	2,401,376

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[1] Profits from sale of merchandise. There is no rural revenue now.

Rural Electrical Service in Ontario.—During the past few years substantial progress has been made in Ontario in the field of rural electrification and the Commission's rural operations are now an important feature of its work. Towards this rural work the Ontario Government, pursuant to its policy of promoting the basic industry of agriculture, contributes, in the form of "grants-in-aid", 50 p.c. of the initial capital cost of distribution lines and equipment. Rural extensions are now being made at the rate of about 1,900 miles per year. Below will be found statistics relating to rural electrical distribution systems operated by the Hydro-Electric Power Commission.

15.—Statistics Relating to Electrical Service in Rural Power Districts Operated by the Hydro-Electric Power Commission of Ontario, years ended Oct. 31, 1925-1929.

Item.		1925.	1926.	1927.	1928.	1929.
No. of rural power districts		–	–	120	131	141
No. of townships served		–	–	211	233	266
No. of consumers		13,899	18,854	25,283	31,063	37,340
Miles of primary distribution lines		1,525	2,277	2,850	3,790	4,835
Horse-power supplied		5,574	7,434	13,273	16,980	21,138
Revenue from customers	$	566,212	743,133	1,032,558	1,342,625	1,684,455
Total expenses	$	476,729	604,931	880,940	1,290,500	1,495,928
Net surplus	$	89,483	138,202	143,618	52,125	188,527
Capital invested, totals	$	2,658,515	4,005,164	5,469,179	7,298,284	9,324,514
Provincial grants-in-aid, totals	$	1,270,507	1,985,580	2,718,727	3,628,146	4,636,195

Subsection 2.—Hydro-Electric and Power Commissions in Other Provinces.

Quebec.—The Quebec Streams Commission, originally created by 1 Geo. V, c. 5, and given additional powers by 3 Geo. V, c. 6 (*see* R.S.Q., 1925, c. 46) and by 20 Geo. V, c. 34, is authorized to ascertain the water resources of the province, to make recommendations regarding their control, and to construct certain storage dams and operate them so as to regulate the flow of streams.

The Commission has not undertaken the direct production of electric power, but has provided assistance to companies engaged in such work by a systematic collection of data on the flow of the principal rivers in the province and on the meteorological conditions prevailing, by investigation of numerous water-power sites and the determination of the longitudinal profile of a large number of rivers, but mostly by the regulation of the flow of the principal power streams, thereby increasing very materially the amount of power available. This regulation is obtained by the construction of storage dams by which water is held in large reservoirs during flood periods and is used to increase the flow at low-water periods.

The Commission has built storage reservoirs on the St. Maurice river, where the low-water flow has been increased from 6,000 second-feet to 17,000 second-feet, on the St. Francis, lake Kenogami, the Métis, the Ste. Anne de Beaupré and the North rivers.

The entire cost to the Commission of the storage works on these rivers has been about $9,000,000 and the annual revenue now derived from them exceeds $750,000.

Other reservoirs have been built and paid for by the benefiting companies instead of being financed by the Commission, namely:—

In the Gatineau River watershed, two large storage reservoirs, Baskatong and Cabonga, were completed in 1927 and 1929, and have a combined capacity of 140 billions of cubic feet, making it possible to increase the flow of the Gatineau river from 3,000 second-feet to 10,000 second-feet. This work was paid for by the Gatineau Power Company.

In 1930, on the Lièvre river, a storage reservoir of 18 billions of cubic feet has been completed at Cedar Rapid, one mile and a half above Notre-Dame-du-Laus, and will be operated to maintain a regulated flow of 3,500 second-feet at High Falls. The cost of this dam was paid by the James MacLaren Company, of Buckingham.

In the same year, on Mattawin river, St. Maurice District, a storage reservoir of 33 billions of cubic feet was built at Taureau Rapid, 80 miles from the mouth of the river, with a view of a better and more complete regulation of the flow of the St. Maurice river. This work was paid for by The Shawinigan Water and Power Company.

These reservoirs are the property of the Commission and are operated by the Commission.

Nova Scotia.—The Nova Scotia Power Commission was created in 1919 with powers similar to those of the Ontario Commission. It is authorized to "generate, accumulate, transmit, distribute, supply and utilize electrical energy and power in any part of the province of Nova Scotia, and do everything incidental thereto or deemed by the Commission necessary or expedient therefor". Its main operations, however, are undertaken with the approval of the Lieutenant-Governor in Council.

The Commission has already constructed several important hydro-electric developments and is now operating the following systems:—*St. Margarets Bay*—sells power by wholesale in Halifax and vicinity; *Mushamush*—sells power by wholesale and retail in Lunenburg Co.; *Sheet Harbour*—sells power by wholesale in Pictou Co., also supplies demands of a groundwood pulp mill at Sheet Harbour; *Mersey System*—supplies demands of pulp and paper-mill at Brooklyn, Queens Co., also supplies town of Liverpool and vicinity; *Tusket System*—sells power by wholesale in Yarmouth, also supplies demands of Cosmos Imperial Mills, Ltd., at Yarmouth; *Roseway System*—sells power by wholesale in Shelburne.

The total installed capacity is 61,450 h.p., and there are about 131 miles of main transmission lines. The total capital expenditure to Sept. 30, 1930, was about $13,000,000.

New Brunswick.—The New Brunswick Electric Power Commission operates under authority of 10 Geo. V, c. 53 and amendments thereto, and has powers somewhat similar to those of the Hydro-Electric Power Commission of Ontario, except that the plant and equipment operated by the Commission are the property of the province and not of the municipalities.

The Commission owns and operates an 11,000 h.p. hydro-electric plant at Musquash, twelve miles west of Saint John, and purchases auxiliary power from the New Brunswick Power Co. at Saint John and the Bathurst Company, Ltd., on the Nepisiguit river. It operates 100 miles of 66,000 volt line between Musquash and Moncton, 37 miles of 32,000 volt line from Nepisiguit to Newcastle, together with 500 miles of primary distribution lines.

The Commission also has under construction a powdered fuel plant at Newcastle Creek on the Grand lake. This plant will have an initial installed capacity of 5,000 k.w. It is expected that the plant will be ready for operation July 1, 1931. Power will be supplied to the city of Fredericton and the town of Marysville by means of a 33,000 volt transmission line 38 miles long.

The Commission sells power *en bloc* to Saint John, Moncton and Sussex, and retails directly in several towns and villages between Saint John and Dorchester, also between Moncton and Shediac, Moncton and Albert and along the Saint John River valley from Saint John to Gagetown. This system serves, directly or indirectly, about 16,500 customers. The total plant investment of the Commission amounts to $4,200,000 and the total annual revenue is about $500,000.

Manitoba.—The Manitoba Power Commission dates from the passage of the Electrical Power Transmission Act of 1919 (c. 30 also c. 61 Consolidated Amendments, 1924) which authorizes the Commission to make provision for generating electrical energy, to enter into contracts for the purchase of power in bulk from generating agencies and for its transmission and sale to municipalities, corporations, and individuals. In 1929, legislation was passed whereby the Government undertook to pay interest charges and sinking fund charges on an amount not exceeding 50 p.c. of the capital cost of the construction and erection of generating stations, transformer stations, protective devices, switching and metering equipment, transmission lines and cables or other equipment required for the generation and transmission of electrical power or energy to municipalities, farms and other customers.

The Commission has built an extensive transmission system under authority of this Act. Power is purchased from the Winnipeg municipal plant and transmitted over high tension steel tower lines to Portage la Prairie, Brandon and Morden. From this main system power is transmitted to the territory south of the Winnipeg-Brandon main line to the International Boundary by means of two parallel high tension wood pole lines running east and west which are tied in by cross lines, thus forming a series of loops. This system is also tied into the main line at Portage la Prairie and Brandon forming another large loop and insuring the best possible service to all this section of Manitoba and those sections to be connected to the system at a later date.

The Commission has built and operates a system serving the territory along the western boundary of the province. Power is supplied from the Commission's plant at Virden to the town of Virden, and south to Reston, Pipestone and Melita; also north and west to Elkhorn, Miniota, Crandall, and Arrow River.

In August, 1930, the Commission purchased the municipally owned plant at Birtle and has just completed enlarging and equipping it with machinery and apparatus sufficient to take care of the needs of this power area until it is connected to the main system. Lines have been completed and service established in Foxwarren, Binscarth, and St. Lazare.

During the summer of 1930 the Commission consummated a contract with the town of Dauphin for a supply of power for the Gilbert Plains-Grandview area. A high tension wood pole line has been completed, distribution systems installed in Gilbert Plains and Grandview, which towns are now taking power from the Commission.

A contract has also been entered into with the Winnipeg Electric Company whereby power is supplied for the Winnipeg Beach-Gimli-Teulon area, extensions to which have been completed. These towns are now being supplied with power by the Commission.

The Commission owns and has operated the Diesel and small water-power plant at Minnedosa since 1921. A wood pole line from the sub-station at Brandon has been completed and the Minnedosa area is now being supplied from the main system.

On December 31, 1930, the Government purchased the Canada Gas and Electric Company's holdings in the city of Brandon, so that in addition to supplying this city with electricity, the Commission will also supply steam heat and gas service.

It is the intention of the Commission to supply all power areas from the main system just as soon as their loads are sufficient to justify the cost of building an extension.

Saskatchewan.—The Saskatchewan Power Commission was established upon the passage of the Power Commission Act, 1929, which authorizes the Commission to manufacture, sell and supply electrical energy, to acquire and develop water-power sites, to acquire or construct steam and oil plants, to construct transmission lines, to purchase power and to enter into contracts with municipalities for the supply of energy. The Commission is further given certain control and regulatory powers in connection with the operation of electric public utilities in the province, and is charged with the responsibility for the administration of the Electrical Licensing Act, 1929, providing for the adoption of a standard electrical code and for the licensing of supply houses, electrical contractors, journeymen and electricians.

The Commission first acquired the steam-generating municipal plant of the city of Saskatoon and enlarged it by the construction of a new 10,000 k.w. steam plant. During the year 1929, it also acquired plants at Humboldt and Rosthern, and installed a plant at Shellbrook; acquired plants at Wynyard, Elfros and Wadena, enlarged the Wynyard plant and built a transmission line connecting Wynyard with Elfros and Wadena; acquired plants at Leader and Prelate, installed a larger plant at Leader, and built a transmission line connecting Leader with Sceptre.

During the year 1930 an extensive program has been carried out by the Commission.

The steam generating municipal plants in the cities of North Battleford and Swift Current were acquired and enlarged or improved. In these cities, as in the city of Saskatoon, the Commission supplies power in bulk at cost to the city authorities, who operate the distribution systems and retail power to consumers.

With the Commission's steam generating plant at Saskatoon as the source of supply, a transmission line running in an easterly direction now connects with Humboldt, the plant at this town being maintained as a standby. Transmission lines also run from Saskatoon in a northerly direction to Shellbrook and Duck Lake, in a westerly direction to Radisson, and in a southwesterly direction to near Rosetown.

From Rosetown southeasterly to the city of Moose Jaw a transmission line has also been constructed by the Commission, with four branches. For this line power is purchased from the generating plant of the National Light and Power Company Limited in Moose Jaw.

The line built in 1929 from Leader to Sceptre has been extended to Success; and the line built in 1929 from Wynyard to Elfros has been extended to Foam Lake. The Leader and Wynyard generating plants have been enlarged.

The Commission purchases power from Herbert Electric Limited at Herbert for the purpose of its line to Morse; from Shaunavon Electric Limited near Congress for its line to Mossbank; from the Calgary Power Company Limited at Macklin for its line to Salvador; from the Montreal Engineering Company Limited at Qu'Appelle for its line to Montmartre, and at Carnduff for its line to Gainsborough; from the Canadian Utilities Limited at Nokomis and Semans for its line to Punnichy, and at Saltcoats for its line to Langenburg. A contract has also been made with this company for interchange of power at Rosetown.

The Commission has installed a generating plant at Tisdale and constructed a transmission line running north to Nipawin.

All the transmission lines before mentioned supply power to all the towns and villages on such lines.

The municipal generating plant and distribution system at the town of Unity have been acquired and are now operated by the Commission.

Plants purchased by the Commission during the year 1930 but not yet taken over for operation are those at Maple Creek and Lanigan.

The number of consumers served directly by the Commission in 101 towns and villages is approximately 6,000, and the number supplied in the cities of Saskatoon, North Battleford and Swift Current, where the cities operate the distribution systems, is approximately 16,103. The Commission owns and operates about 1,100 miles of transmission lines.

The total plant investment of the Commission as at December 31, 1930, was $6,290,431.

British Columbia.—British Columbia as a province has not, up to the present time, established any commissions for the development and use of water power for the distribution of electrical energy. Such power developments as have been undertaken to date have been by private interests or by municipalities. A commission called the Water Board regulates the rates which are charged by public utility companies.

CHAPTER XIV.—MANUFACTURES.[1]

Manufacture is defined as the operation of making wares from raw materials by the hands, by tools or by machinery, thus adding, in the phraseology of the economist, new utilities, and therefore additional value, to the already existing utilities and values of the raw material. Manufacture, in primitive societies and in the pioneer stages of new communities, is normally carried on within the household for the needs of the household, as was the case among the early settlers of Canada in the seventeenth and eighteenth centuries, when domestic manufactures were carried on in combination with the cultivation of the soil, mainly at the times of the year when agricultural operations were suspended. At a later period in the evolution of society, small manufactures were carried on in specialized workshops for the needs of the immediate locality or neighbourhood, as was generally the case in Eastern Canada in the first half of the nineteenth century. Later still, as a consequence of the introduction of machinery operated by steam or electric power—the so-called "industrial revolution"—and of the cheapening of transportation, manufacture has to an ever-increasing extent been concentrated in factories, often employing hundreds and even thousands of persons and producing for a national or even an international market. So far as Canada is concerned, this "industrial revolution" may be said to have commenced shortly before Confederation and to be still in progress. The growth of manufacturing production since 1870 is outlined in this article and the accompanying Table **1**, while the increasing importance of Canadian manufacturing for the international market may be illustrated by the fact that Canadian exports of manufactured produce increased from less than $3,000,000 per annum on the average of 1871-1875 to $614,000,000 in the post-war fiscal year ended Mar. 31, 1920. Exports of "fully or chiefly manufactured" products in the fiscal year ended Mar. 31, 1930, amounted in value to $477,642,392, and exports of "partly manufactured" products to $213,261,833.

Section 1.—The Evolution of Canadian Manufacturing Industries.

Early Manufactures.—The type of manufactures established in a community will in the beginning be largely determined, more especially where transportation charges are high, by the raw materials available in that community. For example, probably the first agricultural process to be carried on by Europeans in what is now the Dominion of Canada was the raising of a crop of grain at Port Royal, Nova Scotia, in 1605; the first corresponding manufacturing process was the grinding of the grain in the autumn of that year. Other early manufactures were also necessarily connected with the satisfaction of the primary needs of human beings for food, clothing and shelter, and with the other primary need for protection. At a census of occupations taken in 1681, we find enumerated a comparatively large number of tailors and shoemakers, masons and carpenters, gunsmiths and edge tool makers.

The earlier manufactures were necessarily of a rather crude and primitive type, concerned with the production of commodities which were too bulky to bear the heavy transportation charges of those days, when only one round trip per year could be made between France and Quebec, and vessels were constantly subject to the storms of the North Atlantic and very frequently to the attacks of the English. Indeed, although the colonial policy of France under the old *régime* aimed at preventing the manufacture in Canada of any article which could be imported from the mother country, the uncertainties of transportation due to the colonial wars of the period—France and England were at war for 34 years out of the 74 years between 1689 and 1763—led to a necessary relaxation of restrictions. On the occasion of the English capture of a convoy in 1705, the colonists were driven to manufacture rough cloth out of whatever fibres they could obtain, such as the Canadian nettle and the inner bark of the basswood. Such events led to the introduction of sheep raising and the manufacturing of homespun woollens. The number of sheep in the colony increased from 1,820 in 1706 to 12,175 in 1720, 28,022 in 1765, 84,696 in 1784 and 829,122 in Lower Canada alone in 1827. This increase in sheep approximately measures the growth of the manufacture of homespun woollens. In the same year, according to census records, there were in Lower Canada 13,243 spinning-wheels, while 1,153,673 French ells of home-made cloth, 808,240 French ells of home-made flannel and 1,058,696 French ells of home-made linen were produced. In 1842 Upper Canada produced 433,527 yards of home-made cloth, 166,881 yards of home-made linen and 727,286 yards of home-made flannel and, in 1848, 624,971 yards of fulled cloth, 71,715 yards linen and 1,298,172 yards flannel. Nova Scotia in 1851 produced 119,698 yards fulled cloth, 790,104 yards non-fulled cloth and 219,352 yards flannel. Such production of homespun goods did not materially interfere with the market for the more elaborate factory-made goods imported from the United Kingdom, but supplied the daughters of pioneer families with useful work in their own homes.

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[1] Revised by J. C. Macpherson, Chief, Industrial Statistics Branch, Dominion Bureau of Statistics. This Branch publishes individual reports on the manufacturing industries, comprising vegetable products, textiles and miscellaneous industries, also reports on the manufacturing industries generally for Canada and the provinces. For a complete list of publications of this Branch see Chapter XXVIII, Section I, under "Production".

In the days when ships were built of wood, Canada was advantageously situated with respect to their production. Pont-Gravé built two small vessels at Port Royal in 1606 and one at Tadoussac in 1608. Talon, in 1666, built on his private account a ship of 120 tons, and in 1672 a vessel of over 400 tons was on the stocks at Quebec. Ships were built for the French navy and for the West India trade. Under the British *régime* shipbuilding was conducted on a large scale in Quebec and New Brunswick, the industry reaching its climax of prosperity about 1865, when 105 Quebec-built ships with a tonnage of 59,333 were placed on the register. Thereafter iron and steel ships gradually supplanted the wooden vessels, but the forests of Canada have since provided the raw material for the pulp and paper and other important industries.

The manufacture of mineral products has been of comparatively recent date. Iron deposits in the St. Maurice region were worked as early as 1733, and furnaces set up there for smelting in 1737 were in fairly constant operation until 1883. The iron and steel used in manufacturing in Canada, as well as the coal which has supplied the manufacturing industries with power, has in the main been imported from the United States, chiefly because the principal manufacturing centres of this country in the St. Lawrence and Great Lakes region are fairly conveniently situated with regard to the coal and iron supplies of the United States and far away from the coal and iron supplies of the Maritime Provinces. In recent years the shortage of coal has been made up for by the increasing use of electric power, while the great bulk of the pig iron used in Canadian manufactures is now made in domestic blast furnaces.

The Introduction of the Factory System.—In Canada, as in the United States and in Great Britain, it was inevitable that manufactures, carried on in the household or in small adjoining workshops, should be supplanted in the leading industries of the country by manufactures carried on in factories. A factory has been defined as "an establishment where several workmen are collected for the purpose of obtaining greater and cheaper conveniences for labour than they could procure individually at their homes, for producing results by their combined efforts which they could not accomplish separately and for preventing the loss occasioned by carrying articles from place to place during several processes necessary to complete their manufacture". Such factories began to exist in Canada in the 60's and the 70's of the last century and have now become the dominant type of Canadian manufacturing industry.

Encouragement of Manufactures by Protective Tariffs.—In all new and developing countries producing food products and raw materials in abundance, there comes, at a certain stage, a movement for working up these commodities within the country. Thus a movement to promote a rise of manufacturing industries in Canada took place in the 50's of the last century, and in 1858 the Canadian Legislature enacted a protective tariff against which English exporters of manufactured goods vehemently protested. Canada, however, claimed the right to raise her revenue in the manner which suited herself and Great Britain did not contest the point. From that day to this, there has been an element of protection in Canadian tariff legislation. For a considerable time, the protection afforded to Canadian manufacturers was described as "incidental protection", and after Confederation the tariff was reduced in deference to the low tariff sentiment prevailing in the Maritime Provinces, which were commercial rather than manufacturing communities. However, after a commercial depression which took place in the 1870's the people of Canada, at the general election of 1878, voted in favour of a higher tariff.

The policy of protection was definitely adopted in 1879, when the manufacturer was given an increase in the duty on his finished product, offset in some cases, it is true, by higher duties on his raw materials. Sugar and molasses products comprised some twelve tariff items, seven bearing a compound duty, the average *ad valorem* duty imposed being 26·25 p.c. On the lines of cotton goods likely to be manufactured in Canada, duties were raised from 17½ p.c. to rates, specific and *ad valorem,* equivalent, on the importations of 1881, to 30 p.c. The duties on woollens, which were all in the 17½ p.c. schedule in 1878, were practically doubled. On some of the 36 iron and steel articles enumerated in the schedule, the duties were specific, on some compound, but on the whole there was an average duty of 16·17 p.c. Pig iron, previously free, was made to pay $2 a ton. The duty on iron billets, bars and rods was increased from 5 p.c. to 10 p.c. and 17½ p.c., while manufactured iron and steel products and machinery were given 25 p.c. to 35 p.c. protection. On coal, both bituminous and anthracite, a duty of 50 cents a ton was imposed. The average *ad valorem* rate of duty on dutiable imports in 1880 was 26·1 p.c. as compared with 21·4 p.c. in 1878. The maximum percentage was reached in 1889, when the rate was 31·9 p.c. By 1896 there was a slight drop in the rate to 30·0 p.c., and the declining trend continued until 1918 and 1919, when a rate of 21·5 p.c. was recorded. In 1923 the rate was 24·9 p.c., in 1927, 24·1 p.c., and in 1930, 24·8 p.c. The average *ad valorem* rate of duty on all imports was 16·7 p.c. in 1923 and 15·9 p.c. in 1930. These rates are based on the gross sums collected; if the refunds and drawbacks were allowed for, the net rate of customs duty would be substantially lower.

Growth of Canadian Manufactures Prior to the War.—Until the later '90's, the growth of Canadian manufacturing industry was not particularly rapid, though the great fall in the prices of commodities during the period from 1873 to 1897 was largely responsible for the comparatively slow growth of the values of manufactured commodities from $221,600,000 in 1870 to $469,800,000 in 1890. Afterwards there was a change and the prices of commodities commenced to rise, while the industries generally shared in the advantages of the great growing period from 1900 to 1912. The gross product of establishments with five hands or over increased from $368,700,000 in 1890 to $1,166,000,000 in 1910 and to $1,381,500,000 in 1915. The fundamental advantages of the position of Canada, her abundant raw material, her inexhaustible water power, her growing home market in the expanding West, had contributed to this result.

In the present as in the past, Canadian manufacturing production has been chiefly dependent upon the use of Canadian raw material, though this is less true than formerly. Raw cotton, for example, is imported from the Southern States, hides from Argentina, rubber from the Straits Settlements and Malay peninsula, sugar from Fiji and the British West Indies and wool from England, Australia and New Zealand, to supply the raw material for Canadian manufacturing industries.

The Influence of the War.—The influence of the war upon the manufactures of Canada was profound and far-reaching, tending to promote the diversification of products and the production at home of many commodities which had previously been imported. On account of the practical suspension of the importation of manufactured goods of many kinds from Europe, enterprising Canadian manufacturers were given opportunities of entering upon new lines of manufacture with practical control of the market. There was added to this the reflex effect of the great prosperity of agriculture, produced by the unprecedented prices of war time, with the general result that industry worked at high pressure, not only to produce munitions and military supplies for the armies of the Allies, but also to make the manifold varieties of goods required for the stimulated civilian consumption. The world shortage of staple commodities, coupled with a strong domestic demand, gave Canadian industries in general a pronounced stimulus toward greater production, and in a great number of cases the capacity of manufacturing plants was increased; this increase created a demand for greater supplies of raw material. Incidentally, factory methods became more specialized and a high degree of administrative and mechanical efficiency was attained, and Canada, partly owing to the absorption of the energies of Europe in the war, assumed a new position as one of the leading manufacturing countries of the world. The inflation of the war period also led to unprecedented figures of values produced.

The great boom in Canadian manufactures described above reached its height in the summer of 1920, statistics for that year showing a gross value of products which was not exceeded until 1929. Even the net value of manufactured products in 1920 was not exceeded until 1928. Statistics for 1921, as published in Table **1**, show a great decline in values from those of 1920, which does not mean a corresponding decline in quantity of production, though a certain decline undoubtedly took place. There was also some decline in 1922, followed, however, by a general improvement during 1923. During the early months of 1924 the general outlook was good, but final statistics for that year were a little below those of 1923. The statistics for 1925, 1926, 1927, 1928 and 1929 show a steady and notable growth in both gross and net values of products. However, the monthly reports of employers as to numbers employed would indicate that this steady expansion has been halted during 1930, owing to the world-wide recession in business which set in toward the end of 1929, with the result that Canadian manufacturing production in 1930 will probably drop back to near the 1927 level.

Subsection 1.—Growth of Manufacturing Production in the Dominion and the Provinces Since 1870.

The growth of large-scale production in manufactures during the past half-century is evident from the statistics of Table **1**, though this tendency has been less marked in Canada than in more highly developed industrial communities, with larger populations able to absorb a larger amount of standardized commodities. Even so, in the electoral district of South Toronto, the most important manufacturing centre of Ontario, the census of 1911 showed that one-half of the industrial establishments employed 90 p.c. of the workers. In the period immediately preceding the Great War many consolidations of independent manufacturing plants were effected, with large economies in the purchase of materials and in selling expenses.

The historical Table **1** shows fairly well the advance of the "Industrial Revolution" (which might better be called "evolution") in Canada. The average capital per manufacturing establishment, the average number of employees per establishment and the average value of product per establishment, if allowance be made for the inflation of values and generally disturbed conditions of the war period, have continued to increase. If the consolidation of industry lessens the chances of an employee becoming a master, it must also be remembered that the amounts paid to employees in salaries and wages have also increased, so that the position of the average employee has been greatly ameliorated, though the lack of statistics of Canadian retail prices before 1890 prevents any detailed comparison of the purchasing power of the average wages of the worker of 1870 and of the employee of the present time.

The Censuses of Manufactures.—The comparability of the statistics of various censuses is seriously affected by the different methods employed in census-taking. In the censuses of 1870, 1880 and 1890, all manufacturing establishments were included, the instructions to enumerators running as follows:—"An industrial establishment is a place where one or several persons are employed in manufacturing, altering, making up or changing from one shape into another materials for sale, use or consumption, quite irrespectively of the amount of capital employed or of the products turned out. All repairs, mending or custom work are understood to be industrial products and are to be entered accordingly, by value, in the returns of industrial establishments".

In the statistics of 1900, 1905 and 1910, however, only establishments employing five hands and upwards were included. The 1901 instructions were that no manufacturing establishment or factory was to be recognized for census purposes if it did not employ at least five persons, either in the establishment itself or as piece-workers employed outside of it. This, however, did not apply to cheese and butter factories nor to certain mineral industries. The 1911 instructions stated that every factory in operation during the whole or part of 1910, and employing five or more persons, was to make a full report. All flour mills, saw and shingle-mills, lime kilns, brick and tile works, butter and cheese factories, fish-curing plants, electric light and power plants whatsoever were nevertheless to be included. The statistics for 1915 included only establishments having an output of $2,500 or over, irrespective of the number of persons employed, except in the case of flour and grist-mills, butter and cheese factories, fish-preserving factories, sawmills, brick and tile yards, lime kilns and electric light plants, where all plants were included.

Under the Statistics Act of 1918, the policy of including mines, fisheries, manufactures and other industrial production in the decennial census was given up and an annual " Census of Industry " substituted therefor. (See First Annual Report of the Dominion Statistician, 1919, pp. 30-36.)

In the Census of Industry for 1917, the limit of output was withdrawn and all establishments reporting to the Bureau were included, the effect being an increase in the number of establishments included from 21,306 in 1915 to 34,392[1] in 1917—an increase due mainly to change of method, rather than to a change in the actual number of industrial establishments existing in the Dominion. The statistics in regard to a large number of the custom and repair industries were not collected for 1922, resulting in the dropping from the compilation of the entire group of " construction, hand trades and repairs". Again, several custom industries, such as the custom clothing industry in the textile group, were not included for 1922. For 1923, again, statistics of ship- and bridge-building and of various clay products industries were collected and included for the first time. The result has been that, in order to restore the desired comparability between statistics of various years, a complete revision of all figures from 1917 to 1924 had to be made. Considerable changes have resulted, but statistics of these years are now free of all inaccuracies due to changes in methods of collection or compilation. In 1925 statistics of the non-ferrous metal smelting industry were for the first time included in the figures for manufacturing. In 1926 certain duplications in the gross revenue of central electric stations were eliminated in a net figure and the difference shown as " cost of material", while the method of compiling the number of employees was changed for 1925 and subsequent years in the following respect:—the yearly average of employees for each estalishment was computed by dividing the sum of employees reported in each month by the number of months in operation instead of, as formerly, by 12 whether the industry was seasonal and only operated part of the year or not.

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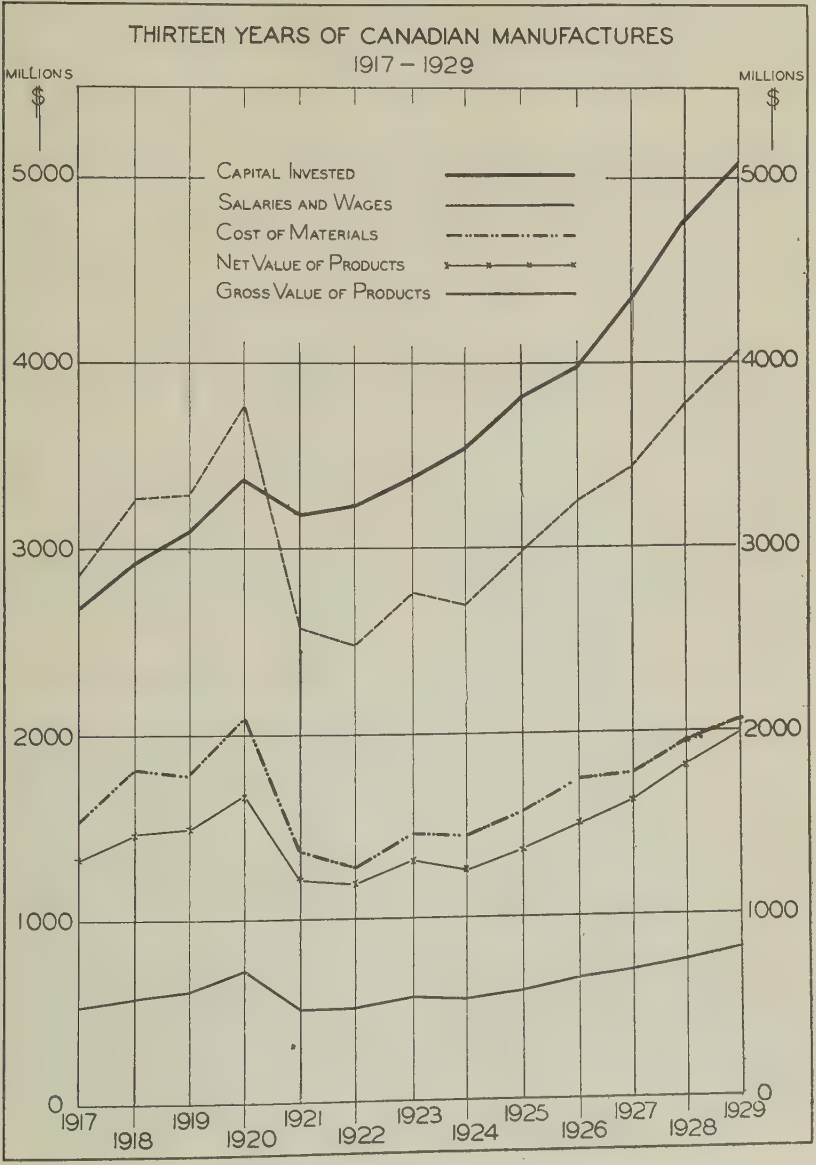
[1] The subsequent decision to omit the group of "construction, hand trades and repairs" from the census of manufactures, together with other less important changes, accounts for the reduction of the number of manufacturing establishments in 1917, as appearing in Table 1, to 22,838, a comparable figure with the 23,597 establishments recorded in 1929.

These changes have created a slight incomparability with the statistics for the preceding years.

Censuses of Manufactures in Recent Years.—The census of manufactures has been taken annually since 1917 by the Dominion Bureau of Statistics, instead of quinquennially as theretofore. The last of the quinquennial censuses was taken in 1916 for the calendar year 1915, and annual censuses have been taken in the years from 1918 to 1930 for the years 1917 to 1929.



In any comparison between the results of the 1915 quinquennial census and the subsequent annual censuses, the rapid rise and fall in prices must be borne in mind, and in comparisons between these annual censuses themselves the same factor must be taken into account. Thus, the new Canadian weighted index number of wholesale prices, compiled by the Dominion Bureau of Statistics, with 1926 as a base, was 155·9 in 1920, as compared with 133·9 in 1919, 127·4 in 1918, 114·3 in 1917 and 70·4 in 1915. In 1921, however, there was a great decline to 110·0—a decline of approximately 29·4 p.c. from the preceding year. Under such circumstances, it was inevitable that up to 1920 phenomenal advances in the money value of manufactured products should have been recorded, and that wages and salaries paid should also have greatly advanced since 1915. It was equally inevitable that in all these respects 1921 should show a great decline, due in much larger measure to the fall in values than to the decrease in the volume of production. In 1922 the index number showed a further drop to 97·3, but afterwards there was a rise from 98·0 in 1923 to 99·4 in 1924 and 102·6 in 1925. In 1926, 1927, 1928 and 1929, however, there was a drop again to 100·0, 97·7, 96·4 and 95·6 respectively, this last being the lowest figure since 1916. This would indicate that the comparatively small decline in the gross production of manufactured goods in 1922 was entirely due to declining values and that the increased production of 1923 resulted from larger quantities, the slight recession in 1924 being due to lessened volume. The 1925 total was swelled by increases in both values and volume, while gross production in 1926, 1927, 1928 and 1929 showed large increases in spite of a definite decline in price levels. (See Table **4**.)

In Table **1** are presented statistics showing by provinces the development of Canadian manufacturing industries during the 59 years from 1870 to 1929. Particularly notable is the increase in the manufactures of British Columbia from $2,900,000 in 1880 to $277,000,000 in 1929 and of Manitoba from $3,400,000 in 1880 to $165,000,000 in 1929. Saskatchewan also shows an increase from $2,400,000 in 1905 to $81,000,000 in 1929 and Alberta from $5,000,000 in 1905 to $108,000,000 in 1929. Thus the West is rapidly becoming an important contributor to Canadian manufacturing production.

1.—Historical Summary of Statistics of Manufactures, by Provinces, 1870-1929.[1]

(*All establishments irrespective of the number of employees.*)

Province.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	$	No.	$	$	$	$
1870.							
Canada	**41,259**	**77,964,020**	**187,942**	**40,851,009**	**124,907,846**	**96,709,927**	**221,617,773**
Nova Scotia	4,912	6,041,966	15,595	3,176,266	5,806,257	6,531,848	12,338,105
New Brunswick	3,479	5,976,176	18,352	3,869,360	9,431,760	7,935,927	17,367,687
Quebec	13,818	28,071,868	66,714	12,389,673	44,555,025	32,650,157	77,205,182
Ontario	19,050	37,874,010	87,281	21,415,710	65,114,804	49,591,995	114,706,799
1880.							
Canada	**49,722**	**165,302,623**	**254,935**	**59,429,002**	**179,918,593**	**129,757,475**	**309,676,068**
P. E. Island	1,617	2,085,776	5,767	807,208	1,829,210	1,570,998	3,400,208
Nova Scotia	5,493	10,183,060	20,390	4,098,445	10,022,030	8,553,296	18,575,326
New Brunswick	3,005	8,425,282	19,922	3,866,011	11,060,842	7,451,816	18,512,658
Quebec	15,754	59,216,992	85,673	18,333,162	62,563,967	42,098,291	104,662,258
Ontario	23,070	80,950,847	118,308	30,604,031	91,164,156	66,825,714	157,989,870
Manitoba	344	1,383,331	1,921	755,507	1,924,821	1,488,205	3,413,026
British Columbia	415	2,952,835	2,871	929,213	1,273,816	1,652,968	2,926,784
The Territories	24	104,500	83	35,425	79,751	116,187	195,938

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[1] See note at end of Table **1** on page 409.

1.—Historical Summary of Statistics of Manufactures, by Provinces, 1870-1929[1]—con.

(All establishments irrespective of the number of employees.)

Province.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
1890.	No.	$	No.	$	$	$	$
Canada	**75,964**	**353,213,000**	**369,595**	**100,415,350**	**250,759,292**	**219,088,594**	**469,847,886**
P. E. Island	2,679	2,911,963	7,910	1,101,620	2,092,067	2,253,843	4,345,910
Nova Scotia	10,495	19,730,736	34,944	7,233,111	16,062,479	14,905,913	30,968,392
New Brunswick	5,429	15,821,855	26,675	5,970,914	12,501,453	11,348,202	23,849,655
Quebec	23,034	116,974,615	116,753	30,461,315	80,712,496	66,747,087	147,459,583
Ontario	32,151	175,972,021	166,322	49,730,359	127,737,371	111,504,555	239,241,926
Manitoba	1,031	5,684,237	4,403	1,905,981	5,688,151	4,467,031	10,155,182
British Columbia	770	14,404,394	11,507	3,586,897	5,119,258	6,880,670	11,999,928
The Territories	375	1,713,179	1,081	425,153	846,017	981,293	1,827,310
	(Establishments with five hands and over.)						
1890.							
Canada[2]	**14,065**	-	**272,033**	**79,234,311**	-	-	**368,696,723**
1900.							
Canada	**14,650**	**446,916,487**	**339,173**	**113,249,350**	**266,527,858**	**214,525,517**	**481,053,375**
P. E. Island	334	2,081,766	3,804	445,998	1,319,058	1,007,650	2,326,708
Nova Scotia	1,188	34,586,416	23,284	5,613,571	13,161,077	10,431,436	23,592,513
New Brunswick	919	20,741,170	22,158	5,748,990	10,814,014	10,158,456	20,972,470
Quebec	4,845	142,403,407	110,329	36,550,655	86,679,779	71,608,215	158,287,994
Ontario	6,543	214,972,275	161,757	56,548,286	138,230,400	103,303,086	241,533,486
Manitoba	324	7,539,691	5,219	2,419,549	7,955,504	4,971,935	12,927,439
Alberta and Saskatchewan	105	1,689,870	1,168	465,763	1,121,342	843,645	1,964,987
British Columbia	392	22,901,892	11,454	5,456,538	7,246,684	12,201,094	19,447,778
1910.							
Canada	**19,218**	**1,247,583,609**	**515,203**	**241,008,416**	**601,509,018**	**564,466,621**	**1,165,975,639**
P.E. Island	442	2,013,365	3,762	531,017	1,816,804	1,319,666	3,136,470
Nova Scotia	1,480	79,596,341	28,795	10,628,955	26,058,315	26,647,869	52,706,184
New Brunswick	1,158	36,125,012	24,755	8,314,212	18,516,096	16,906,206	35,422,302
Quebec	6,584	326,946,925	158,207	69,432,967	184,374,053	166,527,603	350,901,656
Ontario	8,001	595,394,608	238,817	117,645,784	297,580,125	282,230,100	579,810,225
Manitoba	439	47,941,540	17,325	10,912,866	30,499,829	23,173,780	53,673,609
Saskatchewan	173	7,019,951	3,250	1,936,284	2,747,266	3,584,866	6,332,132
Alberta	290	29,518,346	6,980	4,365,661	9,998,777	8,790,048	18,788,825
British Columbia	651	123,027,521	33,312	17,240,670	29,917,753	35,286,483	65,204,236
1915.							
Canada[3]	**15,593**	**1,958,705,230**	-	**283,311,505**	**791,943,433**	**589,603,792**	**1,381,547,225**
P.E. Island	261	1,841,690	-	543,954	1,499,066	1,087,757	2,586,823
Nova Scotia	781	125,754,562	-	17,175,818	36,194,004	33,151,815	69,345,819
New Brunswick	630	45,970,488	-	8,767,230	21,314,643	15,989,257	37,303,900
Quebec	5,743	530,312,464	-	80,324,171	213,754,115	167,449,884	381,203,999
Ontario	6,538	946,619,114	-	140,609,691	410,670,537	304,861,302	715,531,839
Manitoba	499	94,690,750	-	13,389,569	38,529,386	21,952,060	60,481,446
Saskatchewan	238	14,736,860	-	2,440,062	7,417,166	5,938,040	13,355,206
Alberta	282	41,198,897	-	4,791,281	20,669,967	8,716,254	29,416,221
British Columbia	621	157,580,405	-	15,269,729	41,864,549	30,457,423	72,321,972
	(All establishments irrespective of the number of employees.)						
1917.							
Canada	**22,838**	**2,696,154,030**	**621,694**	**509,382,027**	**1,541,087,416**	**1,332,180,767**	**2,873,268,183**
P.E. Island	418	2,225,482	1,588	683,149	3,088,718	1,816,986	4,905,704
Nova Scotia	1,387	128,052,239	25,814	19,177,657	102,456,085	58,751,437	161,207,522
New Brunswick	987	64,010,777	20,201	13,192,740	32,466,048	27,996,000	60,462,048
Quebec	7,193	793,589,489	191,969	143,291,802	385,486,685	396,539,787	782,026,472
Ontario	9,471	1,302,675,630	306,270	264,442,393	795,095,511	685,063,845	1,480,159,356
Manitoba	816	95,530,452	20,055	17,381,806	69,884,850	45,062,533	114,947,383
Saskatchewan	633	30,096,623	6,846	5,906,150	22,093,445	15,529,428	37,622,873
Alberta	720	60,552,814	10,191	9,323,221	42,725,021	26,105,121	68,830,142
British Columbia	1,202	215,681,355	38,689	35,864,308	87,764,650	74,978,844	162,743,494
Yukon	11	3,739,169	71	118,801	26,403	336,786	363,189
1918.							
Canada	**22,910**	**2,926,815,424**	**618,305**	**582,457,488**	**1,829,040,369**	**1,460,723,777**	**3,289,764,146**
P.E. Island	390	2,606,886	1,266	670,093	3,354,829	1,737,195	5,092,024
Nova Scotia	1,357	126,563,220	23,909	20,475,961	89,667,282	57,838,599	147,505,881
New Brunswick	909	72,783,311	18,443	13,338,342	33,222,984	32,231,038	65,454,022
Quebec	7,350	833,095,963	190,646	163,483,036	454,373,411	420,651,473	875,024,884
Ontario	9,701	1,460,384,037	307,283	300,963,759	974,277,838	760,245,667	1,734,523,505
Manitoba	786	96,382,644	20,289	19,740,123	88,545,136	45,096,245	133,641,381
Saskatchewan	577	35,435,976	6,348	6,705,910	28,394,364	15,900,874	44,295,238
Alberta	638	58,284,599	8,457	8,857,536	53,159,734	24,747,604	77,907,338
British Columbia	1,188	237,645,059	41,605	48,119,819	104,023,957	102,038,534	206,062,491
Yukon	14	3,633,729	59	102,909	20,834	236,548	257,382

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[1] See note at end of Table 1 on page 409.

[2] These statistics are not available by provinces.

[3] For 1915 the number of employees in establishments employing 5 hands and over has not been compiled.

1.—Historical Summary of Statistics of Manufactures, by Provinces, 1870-1929[1]—con.

(All establishments irrespective of the number of employees.)

Province.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	$	No.	$	$	$	$
1919.							
Canada	**23,249**	**3,095,025,799**	**611,008**	**618,433,139**	**1,780,629,840**	**1,509,870,745**	**3,290,500,585**
P.E. Island	402	2,462,324	1,295	789,382	4,005,474	2,225,391	6,230,865
Nova Scotia	1,392	126,072,240	23,437	19,992,903	71,100,630	57,179,576	128,280,206
New Brunswick	938	87,428,854	22,262	17,710,448	51,643,683	43,647,725	95,291,408
Quebec	7,551	906,421,665	186,202	172,373,664	496,716,322	438,879,496	935,595,818
Ontario	9,626	1,516,458,331	291,740	304,314,318	894,055,235	732,279,292	1,626,334,527
Manitoba	777	101,709,099	21,963	24,528,624	83,948,482	50,330,559	134,279,041
Saskatchewan	625	30,035,353	7,240	8,789,389	32,167,014	19,038,862	51,205,876
Alberta	664	60,233,769	10,802	12,837,805	52,885,069	34,039,386	86,924,455
British Columbia	1,263	260,652,116	46,034	57,067,542	94,091,505	132,095,198	226,186,703
Yukon	11	3,552,048	33	59,064	16,426	155,260	171,686
1920.							
Canada	**23,351**	**3,371,940,653**	**609,586**	**732,120,585**	**2,085,271,649**	**1,686,978,408**	**3,772,250,057**
P.E. Island	384	2,734,719	1,327	888,121	4,164,223	2,221,746	6,385,969
Nova Scotia	1,388	141,549,856	23,834	26,127,781	85,724,785	63,274,708	148,999,493
New Brunswick	928	105,671,688	19,241	19,505,048	60,812,641	46,910,631	107,723,272
Quebec	7,677	1,028,226,105	186,308	205,829,155	553,558,520	517,693,125	1,071,251,645
Ontario	9,473	1,668,079,488	300,794	369,846,193	1,071,843,374	822,570,783	1,894,414,157
Manitoba	773	112,896,616	24,481	33,357,872	92,729,271	65,492,637	158,221,908
Saskatchewan	639	31,727,162	7,182	10,249,392	34,894,105	24,655,529	59,549,634
Alberta	722	61,063,132	11,387	15,903,609	56,139,646	32,466,428	88,606,074
British Columbia and Yukon	1,367	219,991,887	35,132	50,413,414	125,405,084	111,692,821	237,097,905
1921.							
Canada	**22,235**	**3,190,026,358**	**456,076**	**518,785,137**	**1,336,893,685**	**1,209,143,344**	**2,576,037,029**
P.E. Island	339	2,308,216	893	522,488	2,516,415	1,356,940	3,873,355
Nova Scotia	1,208	105,254,364	14,521	14,400,509	41,099,835	36,384,726	77,484,561
New Brunswick	867	99,204,791	12,441	10,678,721	32,151,631	23,193,562	55,345,193
Quebec	7,173	981,177,681	146,763	151,474,436	390,119,293	361,964,897	752,084,190
Ontario	9,328	1,613,486,222	228,943	274,061,696	704,814,433	625,170,507	1,329,984,940
Manitoba	775	93,334,151	14,851	19,945,727	60,596,556	45,431,304	106,027,860
Saskatchewan	600	30,265,504	4,343	5,677,449	25,589,403	15,092,337	40,681,740
Alberta	709	55,685,908	8,227	10,072,714	33,912,502	26,152,276	60,064,778
British Columbia and Yukon	1,236	209,309,521	25,094	31,951,397	76,093,617	74,396,795	150,490,412
1922.							
Canada	**22,541**	**3,244,302,410**	**474,430**	**510,431,312**	**1,283,774,723**	**1,198,434,407**	**2,482,209,130**
P.E. Island	352	2,946,329	1,127	628,540	2,621,443	1,787,569	4,409,012
Nova Scotia	1,163	106,647,616	14,286	12,192,652	38,003,168	29,985,794	67,988,962
New Brunswick	897	82,230,895	14,351	12,201,014	38,059,376	26,821,281	64,880,657
Quebec	7,410	970,019,442	147,952	144,368,667	337,752,977	370,276,067	708,029,044
Ontario	9,388	1,696,738,996	243,297	275,559,006	678,746,675	617,752,828	1,296,499,503
Manitoba	781	88,779,517	14,188	18,274,012	54,630,668	41,326,416	95,957,084
Saskatchewan	614	31,101,612	4,196	5,618,174	22,450,051	16,357,481	38,807,532
Alberta	672	55,514,624	7,461	9,493,543	30,306,395	22,813,091	53,119,486
British Columbia and Yukon	1,264	210,323,379	27,572	32,095,704	81,203,970	71,313,880	152,517,850
1923.							
Canada	**22,642**	**3,380,322,950**	**525,267**	**571,470,028**	**1,470,140,139**	**1,311,025,375**	**2,781,165,514**
P.E. Island	368	2,821,440	2,745	626,693	2,766,092	1,696,729	4,462,821
Nova Scotia	1,193	106,947,436	17,179	13,226,378	50,103,942	31,880,906	81,984,848
New Brunswick	872	84,563,968	16,221	12,868,164	40,181,251	29,932,755	70,114,006
Quebec	7,142	1,009,898,982	163,622	164,356,082	396,714,471	414,388,925	811,103,396
Ontario	9,549	1,775,493,340	262,770	307,866,314	779,943,613	671,939,695	1,451,883,308
Manitoba	803	92,426,674	14,816	18,394,484	55,973,093	41,361,438	97,334,531
Saskatchewan	647	29,891,835	4,105	5,384,958	19,333,620	15,004,191	34,337,811
Alberta	723	61,659,305	8,767	10,633,705	31,612,377	22,725,424	54,337,801
British Columbia and Yukon	1,345	216,619,970	35,042	38,113,250	93,511,680	82,095,312	175,606,992
1924.							
Canada	**22,178**	**3,538,813,460**	**508,503**	**559,884,045**	**1,438,409,681**	**1,256,643,901**	**2,695,053,582**
P.E. Island	313	2,637,844	2,271	548,496	2,281,398	1,439,476	3,720,874
Nova Scotia	1,166	108,535,273	16,093	11,553,900	38,930,734	25,642,358	64,573,092
New Brunswick	846	88,357,818	15,805	12,812,718	40,503,685	26,952,341	67,456,026
Quebec	6,847	1,044,113,969	161,652	162,379,284	385,880,826	390,351,418	776,232,244
Ontario	9,453	1,836,269,551	252,596	296,508,913	754,469,838	643,403,906	1,397,873,744
Manitoba	768	110,011,602	14,778	18,706,742	59,036,763	43,215,250	102,252,013
Saskatchewan	645	30,269,547	4,151	5,544,416	22,179,147	14,134,784	36,313,931
Alberta	739	67,565,979	8,150	10,709,140	39,102,975	26,142,386	65,245,361
British Columbia and Yukon	1,401	251,051,877	33,007	41,120,436	96,024,315	85,361,982	181,386,297

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[1] See note at end of Table 1 on page 409.

1.—Historical Summary of Statistics of Manufactures, by Provinces, 1870-1929[1]—con.

(All establishments irrespective of the number of employees.)

Province.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	$	No.	$	$	$	$
1925.							
Canada	**22,331**	**3,808,309,981**	**544,225**	**596,015,171**	**1,587,665,408**	**1,360,879,907**	**2,948,545,315**
P.E. Island	318	2,576,677	2,317	572,130	2,805,665	1,484,484	4,290,149
Nova Scotia	1,184	117,326,491	16,568	12,082,693	37,854,196	27,179,505	65,033,701
New Brunswick	861	91,509,933	17,275	14,430,252	44,886,292	28,488,368	73,374,660
Quebec	6,995	1,136,033,133	168,245	169,686,055	412,460,003	408,103,754	820,563,757
Ontario	9,386	1,925,593,482	262,483	307,304,007	828,939,668	698,214,992	1,527,154,660
Manitoba	769	120,362,238	20,023	25,286,173	71,683,113	52,462,650	124,145,763
Saskatchewan	650	31,607,896	4,402	5,755,629	24,353,581	15,739,692	40,093,273
Alberta	734	69,805,848	9,364	11,785,604	45,855,910	29,257,607	75,113,517
British Columbia and Yukon	1,434	313,494,283	43,548	49,112,628	118,826,980	99,948,855	218,775,835
1926.							
Canada	**22,708**	**3,981,569,590**	**581,539**	**653,850,933**	**1,755,158,399**	**1,492,645,039**	**3,247,803,438**
P.E. Island	299	2,850,010	2,261	690,403	2,638,244	1,431,091	4,069,335
Nova Scotia	1,163	118,050,902	16,782	13,014,707	39,686,139	33,819,503	73,505,642
New Brunswick	910	95,661,154	17,674	14,609,734	44,535,406	29,586,833	74,122,239
Quebec	7,164	1,216,975,958	180,669	189,326,145	448,584,313	456,716,511	905,300,824
Ontario	9,457	1,985,165,921	280,353	335,164,239	924,598,851	753,334,653	1,677,933,504
Manitoba	797	127,445,924	21,201	26,973,850	75,588,993	57,129,459	132,718,452
Saskatchewan	674	33,943,060	4,904	6,397,545	29,142,700	17,965,397	47,108,097
Alberta	749	72,468,286	10,233	12,808,554	50,192,669	33,232,962	83,425,631
British Columbia and Yukon	1,495	329,008,375	47,462	54,865,756	140,191,084	109,428,630	249,619,714
1927.							
Canada	**22,936**	**4,337,631,558**	**618,933**	**693,932,228**	**1,789,574,604**	**1,635,923,936**	**3,425,498,540**
P.E. Island	291	3,081,504	2,232	687,849	2,855,438	1,638,190	4,493,628
Nova Scotia	1,190	128,155,040	17,864	13,610,944	42,059,320	32,398,977	74,458,297
New Brunswick	872	99,087,327	18,970	14,999,101	42,780,582	29,886,083	72,666,665
Quebec	7,206	1,376,654,019	196,094	203,724,997	474,361,396	516,221,599	990,582,995
Ontario	9,512	2,134,181,377	296,034	355,174,773	939,872,565	818,132,010	1,758,004,575
Manitoba	859	151,373,047	23,031	28,934,926	79,510,766	62,578,912	142,089,678
Saskatchewan	721	38,387,248	5,683	7,280,945	32,165,027	20,015,654	52,180,681
Alberta	776	81,664,730	11,285	13,511,359	50,611,021	34,376,296	84,987,317
British Columbia and Yukon	1,509	325,047,266	47,740	56,007,334	125,358,489	120,676,215	246,034,704
1928.							
Canada	**23,379**	**4,780,296,049**	**658,023**	**755,199,372**	**1,950,801,339**	**1,819,046,025**	**3,769,850,364**
P.E. Island	277	3,121,568	2,035	712,945	2,747,292	1,697,868	4,445,160
Nova Scotia	1,167	138,809,331	19,222	15,838,394	44,168,441	40,780,167	84,948,608
New Brunswick	794	114,660,886	17,963	14,682,510	39,750,561	27,663,181	67,413,742
Quebec	7,231	1,583,350,884	204,959	217,887,481	510,580,872	562,581,419	1,073,162,291
Ontario	9,900	2,275,921,056	320,729	391,375,947	1,034,501,240	915,222,879	1,949,724,119
Manitoba	871	159,721,124	25,166	32,569,223	88,284,693	71,150,401	159,435,094
Saskatchewan	737	44,622,135	6,173	8,003,577	34,186,731	24,938,549	59,125,280
Alberta	778	92,190,476	12,827	15,403,292	59,398,697	41,345,704	100,744,401
British Columbia and Yukon	1,624	367,898,589	48,949	58,726,003	137,185,812	133,665,857	270,851,669
1929.							
Canada	**23,597**	**5,083,014,754**	**693,816**	**813,049,842**	**2,066,636,914**	**1,997,350,365**	**4,063,987,279**
P.E. Island	276	3,489,934	2,133	781,448	2,864,831	1,773,894	4,638,725
Nova Scotia	1,195	135,662,325	20,966	17,925,190	51,506,523	42,786,293	94,292,816
New Brunswick	860	117,965,970	18,517	15,712,322	40,453,535	30,980,431	71,433,966
Quebec	7,156	1,673,011,042	212,849	233,803,672	543,240,589	617,372,403	1,160,612,992
Ontario	9,910	2,418,340,450	339,859	421,789,723	1,080,106,598	1,022,984,190	2,103,090,788
Manitoba	923	173,152,948	26,318	34,158,583	89,158,381	75,750,746	164,909,127
Saskatchewan	761	58,877,124	8,047	10,438,759	51,208,827	29,292,332	80,501,159
Alberta	817	107,648,028	13,748	16,460,038	63,432,924	44,123,868	107,556,792
British Columbia and Yukon	1,699	394,866,933	51,379	61,980,107	144,664,706	132,286,208	276,950,914

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[1] Statistics of the construction, and custom and repair industries have not been collected since 1921; the figures for these industries for 1917 to 1921 have consequently been deducted from the totals as previously published. The industries excluded comprise custom clothing, dyeing and laundry work, boot, jewellery, automobile and bicycle repairing, blacksmithing, and custom and repair work by foundries.

Statistics of the non-ferrous metal smelting industry were included in manufactures for the first time in 1925. The introduction in 1926 of the use of the gross and net revenue of the Central Electric Station industry as gross and net production and the inclusion of the difference with "cost of materials", impairs the comparability of 1926 and later figures for the "cost of materials" and "net value of products" with those of earlier years.

Subsection 2.—Thirteen Years of Manufacturing in the Industrial Groups.

The commodities required of the manufacturers of a country in time of war differ considerably from those needed in time of peace. Thus, while under the stimulus of inflated values, manufacturing as a whole reached a peak value of gross production in 1920, not exceeded until 1929, the "iron and its products" group reached a high point of gross production in 1918, the last year of the war. The "chemicals and allied products" group reached its greatest development under war conditions, when the value of gross production was twice as great as in 1928. On the other hand, the central electric station industry has shown rapid and consistent growth, uninterrupted by changes from war to peace conditions or the consequent drastic changes in price levels, throughout all the years from 1917 to 1929 covered by this record. In the 13 years the gross value of production by this industry has risen from $44,500,000 to $147,500,000, while the capital investment has grown from $356,000,000 to $1,056,000,000. The "non-ferrous metals" group has also shown striking progress since the war. The statistics for this group are not comparable throughout the 13 years, owing to the fact that the non-ferrous metal smelting and refining industry was included for the first time in 1925. But the gross production of the group in 1924, the last year before the smelters were included, almost equalled that of the peak year 1920, while since 1925 the expansion has been very rapid.

2.—Summary of Statistics of Manufactures, by Industrial Groups, 1917-1929.[1]

(All establishments irrespective of the number of employees.)

Industrial Group.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	$	No.	$	$	$	$
1917.							
Totals	**22,838**	**2,696,154,030**	**621,694**	**509,382,027**	**1,541,087,416**	**1,332,180,767**	**2,873,268,183**
Vegetable products	3,816	274,722,765	61,288	44,780,329	365,483,923	181,072,143	546,556,066
Animal products	5,486	207,165,245	46,994	35,753,133	320,302,039	124,103,990	444,406,029
Textile products	1,360	196,823,197	82,639	51,189,060	132,479,763	115,739,096	248,218,859
Wood and paper	7,255	537,731,225	153,751	115,137,384	149,927,482	248,986,564	398,914,046
Iron and its products	1,404	634,642,989	142,416	140,334,255	357,688,333	334,616,810	692,305,143
Non-ferrous metals	296	69,421,911	18,220	15,898,890	46,445,469	41,039,351	87,484,820
Non-metallic minerals	1,410	150,328,144	22,284	19,360,952	38,724,530	60,802,754	99,527,284
Chemicals and allied products	539	175,836,690	56,153	51,505,484	99,068,092	131,381,995	230,450,087
Miscellaneous industries	606	93,477,696	29,102	27,644,825	30,967,785	49,901,216	80,869,001
Central electric stations	666	356,004,168	8,847	7,777,715	-	44,536,848	44,536,848
1918.							
Totals	**22,910**	**2,926,815,424**	**618,305**	**582,457,488**	**1,829,040,369**	**1,460,723,777**	**3,289,764,146**
Vegetable products	3,824	310,556,340	63,197	49,788,771	409,813,120	188,009,655	597,822,775
Animal products	5,493	225,949,731	51,085	40,970,545	348,773,348	131,220,539	479,993,887
Textile products	1,394	232,678,413	82,144	54.754,968	182,529,695	137,903,308	320,433,003
Wood and paper	7,281	599,594,273	150,732	130,348,989	168,154,574	282,110,061	450,264,635
Iron and its products	1,397	631,390,223	127,246	148,361,634	393,204,670	330,388,308	723,592,978
Non-ferrous metals	286	78,075,726	17,741	17,635,814	40,988,990	38,406,413	79,395,403
Non-metallic minerals	1,264	168,367,861	20,940	20,497,078	56,541,480	56,791,607	113,333,087
Chemicals and allied products	534	162,912,627	56,391	66,741,341	178,227,423	157,923,196	336,150,619
Miscellaneous industries	642	115,347,828	35,956	43,004,106	50,807,069	84,521,557	135,328,626
Central electric stations	795	401,942,402	12,873	10,354,242	-	53,449,133	53,449,133

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[1] See note at end of Table 1 on page 409.

2.—Summary of Statistics of Manufactures, by Industrial Groups, 1917-1929[1]—continued.

(All establishments irrespective of the number of employees.)

Industrial Group.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	$	No.	$	$	$	$
1919.							
Totals	**23,249**	**3,095,025,799**	**611,008**	**618,463,139**	**1,780,629,840**	**1,509,870,745**	**3,290,500,585**
Vegetable products	3,964	336,730,861	69,780	62,545,616	497,887,117	199,785,015	697,672,132
Animal products	5,433	242,003,094	54,372	50,709,455	401,105,903	142,322,561	543,428,464
Textile products	1,524	257,860,265	87,275	69,661,851	213,282,721	163,841,996	377,124,717
Wood and paper	7,623	707,052,570	166,176	157,240,646	215,115,868	359,322,951	574,438,819
Iron and its products	1,523	611,291,790	129,157	162,103,816	249,399,965	348,540,736	597,940,701
Non-ferrous metals	311	80,288,911	17,108	18,338,421	33,393,739	38,113,823	71,507,562
Non-metallic minerals	1,048	201,452,109	22,852	25,443,422	64,768,623	63,111,247	127,879,870
Chemicals and allied products	406	106,110,959	14,719	15,255,350	45,399,060	49,168,100	94,567,160
Miscellaneous industries	612	135,723,230	39,808	45,677,430	60,276,844	88,177,858	148,454,702
Central electric stations	805	416,512,010	9,761	11,487,132	-	57,486,458	57,486,458
1920.							
Totals	**23,351**	**3,371,940,653**	**609,586**	**732,120,585**	**2,085,271,649**	**1,686,978,408**	**3,772,250,057**
Vegetable products	4,219	394,123,233	72,380	75,695,530	532,484,195	234,317,527	766,801,722
Animal products	4,823	221,792,457	48,687	54,291,606	400,496,354	152,995,130	553,491,484
Textile products	1,304	302,758,185	87,730	84,433,609	256,233,300	173,741,035	429,974,335
Wood and paper	7,867	772,086,812	143,731	171,610,460	308,282,232	415,784,276	724,066,508
Iron and its products	1,690	642,904,322	146,204	205,414,599	349,642,666	365,473,097	715,115,763
Non-ferrous metals	324	109,382,033	23,162	27,895,343	48,434,120	52,847,178	101,281,298
Non-metallic minerals	1,176	223,541,735	27,361	34,406,423	74,200,407	85,216,316	159,416,723
Chemicals and allied products	464	122,123,730	17,653	22,193,421	62,644,608	65,183,212	127,827,820
Miscellaneous industries	665	134,954,504	31,985	41,552,885	52,853,767	75,715,577	128,569,344
Central electric stations	819	448,273,642	10,693	14,626,709	-	65,705,060	65,705,060
1921.							
Totals	**22,235**	**3,190,026,358**	**456,076**	**518,785,137**	**1,366,893,685**	**1,209,143,344**	**2,576,037,029**
Vegetable products	3,946	360,945,194	61,161	63,130,893	364,123,395	205,448,326	569,571,721
Animal products	5,051	200,697,527	45,726	48,124,667	267,878,165	111,534,101	379,412,266
Textile products	1,627	260,158,327	76,379	71,321,283	164,139,109	140,773,447	304,912,556
Wood and paper	7,152	775,207,859	111,322	131,089,861	203,856,170	283,260,565	487,116,735
Iron and its products	1,138	575,680,424	77,080	98,363,983	194,725,179	187,672,905	382,398,084
Non-ferrous metals	344	104,079,490	17,936	22,692,784	31,439,989	41,149,894	72,589,883
Non-metallic minerals	1,075	209,641,529	24,393	28,374,655	67,780,080	75,278,296	143,058,376
Chemicals and allied products	468	118,382,642	12,571	16,192,457	43,108,870	45,495,135	88,604,005
Miscellaneous industries	577	100,563,915	18,794	24,259,876	29,842,728	44,894,581	74,737,309
Central electric stations	857	484,669,451	10,714	15,234,678	-	73,636,094	73,636,094
1922.							
Totals	**22,541**	**3,244,302,410**	**474,430**	**510,431,312**	**1,283,774,723**	**1,198,434,407**	**2,482,209,130**
Vegetable products	4,355	371,361,682	63,217	64,424,922	330,589,052	206,946,749	537,535,801
Animal products	5,118	201,829,414	49,595	49,933,679	264,078,631	107,473,382	371,552,013
Textile products	1,709	268,065,238	88,048	76,224,361	153,066,593	155,493,510	308,560,103
Wood and paper	6,983	761,188,396	118,462	132,084.914	206,682,820	283,131,962	489,814,782
Iron and its products	1,040	526,109,953	74,588	90,605,157	168,282,265	163,302,638	331,584,903
Non-ferrous metals	325	102,208,275	18,222	21,451,629	30,861,895	39,993,798	70,855,693
Non-metallic minerals	1,095	238,691,461	22,468	27,204,642	63,377,262	77,911,159	141,288,421
Chemicals and allied products	469	118,025,483	14,082	16,770,503	47,039,926	48,904,259	95,944,185
Miscellaneous industries	542	88,753,756	15,064	17,236,255	19,796,279	32,948,084	52,744,363
Central electric stations	905	568,068,752	10,684	14,495,250	-	82,328,866	82,328,866

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[1] See note at end of Table **1** on page 409.

2.—Summary of Statistics of Manufactures, by Industrial Groups, 1917-1929[1]—continued.

(All establishments irrespective of the number of employees.)

Industrial Group.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	$	No.	$	$	$	$
1923.							
Totals	**22,642**	**3,380,322,959**	**525,267**	**571,470,028**	**1,470,140,139**	**1,311,025,375**	**2,781,165,514**
Vegetable products	4,427	385,725,299	65,395	67,441,626	337,790,150	209,884,136	547,674,286
Animal products	5,078	207,000,471	61,517	52,870,124	273,995,639	110,090,176	384,085,815
Textile products	1,817	283,248,204	92,669	81,244,205	176,445,427	157,993,769	334,439,196
Wood and paper	6,875	801,085,402	128,404	147,315,373	236,808,842	319,216,193	556,025,035
Iron and its products	1,000	552,272,800	88,071	115,453,809	256,417,991	209.541,556	465,959,547
Non-ferrous metals	333	106,644,467	21,409	25,015,665	42,775,264	45,424,062	88,199,326
Non-metallic minerals	1,091	243,519,222	24,978	29,280,591	69,302,684	74,673,276	143,975,960
Chemicals and allied products	475	126,537,481	15,149	18,433,679	54,638,062	56,606,094	111,244,156
Miscellaneous industries	589	92,817,021	16,580	19,630,918	21,966,080	36,454,817	58,420,897
Central electric stations	957	581,472,583	11,095	14,784,038	–	91,141,296	91,141,296
1924.							
Totals	**22,178**	**3,538,813,460**	**508,503**	**559,884,045**	**1,438,409,681**	**1,256,643,901**	**2,695,053,582**
Vegetable products	4,414	414,922,612	66,183	70,638,304	365,614,854	220.330,748	585,945,602
Animal products	4,816	208,466,666	57,779	53 270,202	269,993,396	109,783,926	379,777,322
Textile products	1,781	298,665,942	90,254	77,924,749	179,551,579	141,803,602	321,355,181
Wood and paper	6,906	879,307,261	127,551	148,529,075	246,078,592	300,425,516	546,504,108
Iron and its products	1,003	535,924,351	78,314	99,567,510	195,981,347	174,107,327	370,088,674
Non-ferrous metals	341	114,354,971	21,670	26,118,839	42,255,294	50,968,079	93,223,373
Non-metallic minerals[2]	1,095	235,613,111	24,186	29,559,746	61,741,225	76,832,578	138,573,803
Chemicals and allied products	457	126,495,685	13,796	17,074,529	54,311,913	53,905,324	108,217,237
Miscellaneous industries	414	96,497,768	15,942	19,254,507	22,881,481	33,317,033	56,198,514
Central electric stations	951	628,565,093	12,828	17,946,584	–	95,169,768	95,169,768
1925.							
Totals	**22,331**	**3,808,309,981**	**544,225**	**596,015,171**	**1,587,665,408**	**1,360,879,907**	**2,948,545,315**
Vegetable products	4,558	439,490,764	72,035	72,796,657	404,684,887	227,526,377	632,211,264
Animal products	4,892	210,015,438	63,675	55,285,458	315,914,684	115,863,479	431,778,163
Textile products	1,640	305.776,409	94,531	81,573,988	193,238,560	143,950,124	337,188,684
Wood and paper	6,652	907,204,530	127,859	148,457,748	246,551,591	310,642,862	557,194,453
Iron and its products	1,075	567,912,477	90,125	117,642,470	206,337,132	205,041,508	411,378,640
Non-ferrous metals	378	181,600,227	27,735	35,713,903	74,068,260	85,701,766	159,770,026
Non-metallic minerals	1,191	239,823,825	24,468	29,892,659	65,278,752	78,969,840	144,248,592
Chemicals and allied products	510	126,483,348	13,951	17,469,157	56,299,219	56,607,527	112,906,746
Miscellaneous industries	428	103,281,876	16,583	18,427,224	25,292,323	33,988,542	59,280,865
Central electric stations	1,007	726,721,087	13,263	18,755,907	–	102,587,882	102,587,882
1926.							
Totals	**22,708**	**3,981,569,590**	**581,539**	**653,850,933**	**1,755,158,399**	**1,492,645,039**	**3,247,803,438**
Vegetable products	4,529	449,259.094	73,908	75,349,586	414,316,414	244.004,302	658,320,716
Animal products	4,896	223,938,559	67,843	60,203,986	329,114,267	122,920,658	452,034,925
Textile products	1,698	317,275,429	100,572	88,596,752	202,832,383	163,502,261	366,334,644
Wood and paper	6,751	929,589,278	134,187	160,916,729	261,001,976	339,062,685	600,064,661
Iron and its products	1,142	597,982,098	103,510	137,640,065	258,020,373	247,168,476	505,188,849
Non-ferrous metals	403	202,503,426	30,095	39,201,147	90,613,004	92,888.739	183,501,723
Non-metallic minerals	1,240	261,724,184	26,045	31,986,949	82,293,319	91,863,604	174,156,923
Chemicals and allied products	556	133,407,891	14,345	18,309,377	60,124,582	62,464,944	122,589,526
Miscellaneous industries	436	109,669,565	17,628	21,703,342	30,307,874	39,835,657	70,143,531
Central electric stations	1,057	756,220,066	13,406	19,943,000	26,534,207	88,933,733	115,467,940

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[1] See note at end of Table 1 on page 409. [2] A belated revision in the cement industry raised the salaries and wages in this group to $29,561,746 and reduced the gross value of products to $138,318,637.

2.—Summary of Statistics of Manufactures, by Industrial Groups, 1917-1929[1]—concluded.

(*All establishments irrespective of the number of employees.*)

Industrial Group.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	$	No.	$	$	$	$
1927.							
Totals	**22,936**	**4,337,631,558**	**618,933**	**693,932,228**	**1,789,574,604**	**1,635,923,936**	**3,425,498,540**
Vegetable products	4,793	494,176,054	78,300	81,830,734	429.325,105	283,374,975	712,700,080
Animal products	4,692	233,113,872	68,381	61,407,018	325,455,482	132,260,556	457,716,038
Textile products	1,802	346,512,165	107,519	95,891,243	198,870,157	183.137.300	382,007,457
Wood and paper	6,811	1,023,301,749	150,550	167,995,734	271,780,232	357,786,924	629,567,156
Iron and its products	1,148	638,914,893	106,293	143,351,174	261,102,679	264,819,160	525,921,839
Non-ferrous metals	401	208,957,166	33,443	44,154,695	87,612,666	112,757,295	200,369,961
Non-metallic minerals	1,184	280,033,057	26,662	33,958,541	86,312,529	89,433,536	175,746,065
Chemicals and allied products	561	134,618,839	14,559	18,656,851	63,630,588	63,854,084	127,484.672
Miscellaneous industries	447	111,178,478	18,518	23,739,923	34,699,896	44,466,809	79,166,705
Central electric stations	1,097	866,825,285	14,708	22,946,315	30,785,270	104,033,297	134,818,567
1928.							
Totals	**23,379**	**4,780,296,049**	**658,023**	**755,199,372**	**1,950,804,339**	**1,819,046,025**	**3,769,850,364**
Vegetable products	4,845	531,918,725	83,764	88,119,342	439,922,128	317,073,457	756,995,585
Animal products	4,542	243,550,121	67,777	61,950,631	351,324,498	133,697,496	485,021,994
Textile products	1,885	365,721,591	113,724	103,451,235	223,730,616	191,671,848	415,402,464
Wood and paper	7,290	1,158,651,534	158,005	179,244,698	293,159,913	389,389,952	682,549,865
Iron and its products	1,159	702,931,186	119,199	168,320,038	309,618,074	300,014,925	609,632,999
Non-ferrous metals	406	253,367,370	35,568	47,497,842	98,746,019	139,220,908	237,966,927
Non-metallic minerals	1,178	298,693,122	28,650	37,136,451	93,683,873	112,398,268	206,082,141
Chemicals and allied products	572	148,939,920	16,130	20,290,417	74,163,334	72,812,503	146,975,837
Miscellaneous industries	453	119,602,877	19,351	25,101,208	35,090,248	50,439,849	85,530,097
Central electric stations	1,049	956,919,603	15,855	24,087,420	31,365,636	112,326,819	143,692,455
1929.							
Totals	**23,597**	**5,083,014,754**	**693,816**	**813,049,842**	**2,066,636,914**	**1,997,350,365**	**4,063,987,279**
Vegetable products	5,005	569,064,835	88.858	93,299,665	427,019,724	344,437,941	771,457,665
Animal products	4,490	243,825.065	67,670	62,081,423	345,351,882	132,409,973	477,761,855
Textile products	1,891	383,153,797	115,620	105,896,237	220,304,250	205,943,337	426,247,587
Wood and paper	7,405	1,152,075,234	164,182	192,235,448	314,203,289	411,616,451	725,819,740
Iron and its products	1,169	754,989,105	132,281	186,928,700	384.925,660	353,087,320	738,012,980
Non-ferrous metals	408	298,721,106	39,867	54,501,806	124,900,632	158,645.034	283,545,666
Non-metallic minerals	1,188	329,448,844	31,431	41,511,846	117,149,130	124,874,388	242,023,518
Chemicals and allied products	554	165,886,912	16,694	22,639,449	55,184,337	83,360,884	138,545,221
Miscellaneous industries	463	130,118,324	21,049	29,123,447	42,982,071	60,091,591	103,073,662
Central electric stations	1,024	1,055,731,532	16,164	24,831,821	34,615,939	122,883,446	157,499,385

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[1] See note at end of Table 1 on page 409.

Subsection 3.—Summary Statistics of Manufacturing Production.

Summary Statistics of Manufactures.—In Table 3 will be found an analysis of the most important statistics of manufactures for the seven years from 1922 to 1928 here brought together in order that the tendencies in Canadian manufacturing industries may be traced as clearly as possible through this latest period of their development. Corresponding figures for the years from 1917 to 1922 were given at p. 384 of the 1926 Year Book, but the inflation of values in the war and immediate post-war periods makes the figures for these years largely incomparable. One very important figure, however, where the trend of development

3.—Summary Statistics of Manufactures, 1922-28.

(All establishments other than construction and custom and repair industries, irrespective of the number of employees.)

Item.		1922.	1923.	1924.	1925.[1]	1926.	1927.	1928.
Establishments	No.	22,541	22,642	22,178	22,331	22,708	22,936	23,379
Capital	$	3,244,302,410	3,380,322,950	3,538,813,460	3,808,309,981	3,981,569,590	4,337,631,558	4,780,296,049
Average capital per establishment	$	143,929	149,295	159,563	170,538	175,338	189,119	204,469
Average capital per employee	$	6,838	6,435	6,959	6,999	6,846	7,008	7,264
Average capital per wage-earner	$	8,143	7,562	8,186	8,162	7,967	8,131	8,434
Total employees	No.	474,430	525,267	508,503	544,225	581,539	618,933	658,023
Average number of employees per establishment	No.	21·1	23·2	22·9	24·4	25·6	27·0	28·2
Total salaries and wages	$	510,431,312	571,470,028	559,884,045	596,015,171	653,850,933	693,932,228	755,199,372
Average salaries and wages per establishment	$	22,645	25,239	25,245	26,690	28,794	30,255	32,302
Average salaries and wages per employee	$	1,076	1,089	1,101	1,095	1,124	1,121	1,148
Employees on salaries	No.	76,040	78,273	76,230	77,623	81,794	85,483	91,243
Average salaried employees per establishment	No.	3·4	3·5	3·4	3·5	3·6	3·7	3·9
Salaries	$	136,219,171	142,738,681	139,614,639	143,056,516	152,705,944	162,348,978	174,770,879
Average salary	$	1,791	1,824	1,831	1,843	1,867	1,899	1,915
Employees on wages	No.	398,390	446,994	432,273	466,602	499,745	533,450	566,780
Average number of wage-earners per establishment	No.	17·7	19·7	19·5	20·9	22·0	23·3	24·3
Wages	$	374,212,141	428,731,347	420,269,406	452,958,655	501,144,989	531,583,250	580,428,493
Average wage	$	939	959	972	971	1,003	997	1,024
Cost of material	$	1,283,774,723	1,470,140,139	1,438,409,681	1,587,665,408	1,755,158,399	1,789,574,604	1,950,804,339
Average cost of material per establishment	$	56,953	64,930	64,858	71,097	77,293	78,025	83,442
Average cost of material per employee	$	2,709	2,801	2,827	2,917	3,018	2,892	2,965
Value added in manufacture	$	1,198,434,407	1,311,025,375	1,256,643,901	1,360,879,907	1,492,645,039	1,635,923,936	1,819,046,025
Average value added per establishment	$	53,167	57,902	56,662	60,941	65,732	71,325	77,807
Average value added per employee	$	2,523	2,494	2,473	2,501	2,567	2,643	2,764
Gross value of product	$	2,482,209,130	2,781,165,514	2,695,053,582	2,948,545,315	3,247,803,438	3,425,498,540	3,769,850,364
Average gross value of product per establishment	$	110,120	122,832	121,519	132,038	143,025	149,350	161,249
Average gross value of product per employee	$	5,232	5,295	5,300	5,418	5,585	5,535	5,729
Power employed[2]	H.P.	2,016,563	2,146,903	2,538,535	2,888,164	3,134,248	3,287,582	3,592,184
Average number of horse-power per establishment[2]	H.P.	95	99	120	135	145	151	161
Average number of horse-power per wage-earner[2]	H.P.	5·14	4·87	5·97	6·29	6·37	6·27	6·45
Piece workers[3]	No.	6,095	8,642	7,674	3,735	2,431	2,939	3,021
Earnings of piece workers[3]	$	1,284,437	1,627,055	1,485,422	692,302	466,708	450,057	456,766

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[1] A change in the method of computing the number of employees in 1925 and later years increased the number somewhat over that which the method previously used would have given. There was therefore a proportionate reduction in the averages for 1925 and later years per employee and wage-earner, as compared to what these averages would have been under the former method.

[2] The figures of power in this table represent the installation in manufactures exclusive of central electric stations, which are also excluded from the number of establishments and of employees in working out the averages. These figures are thus not comparable with those given on pp. 384-385 in the 1926 Year Book.

[3] These are piece workers employed outside the establishments and are not included in general statistics of number of employees or of earnings.

proceeds clearly and uninterruptedly throughout the 12 years, is concerned with the use of power. In the analysis here given the aim is to show the position of power as a factor in general manufacturing production. Therefore the power installation of central electric stations has been excluded. Unfortunately this was not done for the earlier years shown in the 1926 Year Book. When this change is made it will be found that the total horse-power employed increased from 1,664,578 in 1917 to 3,592,184 in 1928 or by 116 p.c. in 11 years. In the same period the horse-power used per establishment increased from 75 to 161 and the horse-power per wage-earner from 3·04 to 6·45, indicating the rapidly increasing contribution of power to manufacturing production.

The increases from $143,929 to $204,469 in average capital per establishment between 1922 and 1928, and in average number of employees from 21·1 to 28·2 are very significant figures. It is also noteworthy that the percentage of salaried employees to total employees has declined between 1922 and 1928 from 16·0 to 13·9—or approximately from one-sixth to one-seventh. In other words, there were in 1928 six wage-earners employed to each salary earner, as compared with five wage-earners to each salary earner in 1922. This is probably due to the fact that in the depression of 1920-22, wage-earners, with a less secure tenure of their positions, were laid off to a proportionately much greater extent than salary earners, so that the proportion of salary earners on the 1922 staffs was abnormally large.

Value of Products.—The gross value of manufactured products in 1928 was reported as $3,769,850,364; the cost of materials was $1,950,804,339, leaving $1,819,046,025 as the value added by manufacture. As the finished products of one branch or manufacture are constantly used as materials in other branches in the ascending scale of modern industry, it follows that they are counted over and over again, swelling in this manner the total gross value of products. The total value of manufactured products, strictly defined, would include:—(1) the value of all raw materials obtained from the extractive and primary production industries which have entered into the manufacturing output, and (2) the entire value added to these raw materials by manufacturing processes from the time they first entered any factory up to the close of the census year. This total value would be very much greater than the $1,819,046,025 shown as having been added by manufacture, but not so great as the $3,769,850,364 shown as the gross value of production.

Volume of Manufacturing Production in Recent Years.—An investigation of the greatest importance, especially in a period when values are rapidly changing, is that of the volume of manufacturing production as distinguished from its value. This is a difficult subject of research, particularly on account of the constant changes in the commodities manufactured and in their relative proportions. It is, however, a matter in which tentative conclusions are better than none, and accordingly an estimate of the volume of manufacturing production in recent years has been attempted in Table 4, on the following plan. First, the gross value of the manufactured commodities produced in 1917, the first year of the annual census of manufactures, is taken as 100, and later years given as a percentage of this. Gross values, although they include numerous duplications, are used since the purpose is to determine changes in the volume of manufactured commodities produced irrespective of the relative value of the raw materials used. A better figure than gross values would be the one outlined above, *i.e.*, the sum of the values of all original raw materials used plus the values added in the various ascending stages of manufacture. But unfortunately such a figure is not available. Next, the average index number of the wholesale prices of the 276 manufactured commodities used in the Bureau's index number of wholesale prices is given for each year, and, in the next column, reduced to a percentage relative to 1917. Finally, the values, expressed as a percentage, are divided by the prices, also expressed as a percentage, and the quotient is considered to indicate the volume of manufacturing production. In the table which follows may be noted the decline in the volume of production between 1918 and 1920, in spite of increasing values, the recovery in the volume of production in 1922, 1923 and 1924, in spite of diminished values, and the increase in both volume and values in 1925, when the volume of manufacturing production, thus estimated, was about one-eighth greater than in 1917. In 1929, although the prices of manufactured goods were more than 18 p.c. below the level of 1917, total value had increased by 41 p.c. and volume by 73 p.c.

4.—Volume of Manufacturing Production, 1917-1929.

Year.	Values.		Prices.		Index No. Volume of Manufacturing Production.
	Gross Value Manufacturing Production.	Percentage relative to 1917.	Index No. Prices of Manufactured Commodities.	Percentage relative to 1917.	
	$	p.c.		p.c.	
1917	2,873,268,183	100·00	113·7	100·0	100·0
1918	3,289,764,146	114·49	127·6	112·2	102·0
1919	3,290,500,585	114·52	132·5	116·5	98·3
1920	3,772,250,057	131·28	156·8	137·9	95·2
1921	2,576,037,029	89·65	116·7	102·6	87·4
1922	2,482,209,130	86·38	100·5	88·4	97·7
1923	2,781,165,514	96·79	103·1	90·7	106·7
1924	2,695,053,582	93·80	101·9	89·6	104·7
1925	2,948,545,315	102·62	103·8	91·3	112·4
1926	3,247,803,438	113·03	100·0	87·9	128·6
1927	3,425,498,540	119·22	96·5	84·9	140·4
1928	3,769,850,364	131·20	95·0	83·5	157·1
1929	4,063,987,279	141·44	93·0	81·8	172·9

Consumption of Manufactured Products.—One of the beneficial results of placing the classification of external trade and of production upon a common basis is exhibited in Table **5**, where the value of commodities made available for consumption in Canada is derived from the statistics of the two important fields. For example, the value of all manufactured commodities made available in a period approximately corresponding to 1928 was $4,025,861,300, a figure obtained by adding to the value of manufactured products in 1928 the value of the imports of manufactured and partly manufactured goods during the fiscal year ended Mar. 31, 1929, and deducting the value of the corresponding exports for the same period. In this table, as in the preceding one, more accurate statistics could be presented were it possible to exclude from the gross value of manufactured products the duplications involved when the products of one manufacturing establishment become the materials worked upon in another. Iron, vegetable and textile products led the other groups in the value of finished goods made available for consumption. The large amount of vegetable products made available for consumption was due to the large production, as the exports were larger than the imports, while textiles and iron and steel products, in addition to a large production showed an excess of imports over exports of $150,000,000 for textiles and $256,000,000 for iron and steel products.

5.—Consumption of Manufactured Products, by Groups, 1928, with Totals for 1922-1927.

NOTE.—Statistics of manufacturing production are for the calendar year. Imports and exports of manufactured and partly manufactured goods are for the fiscal years ended Mar. 31 of the following years.

Group of Industries.	Value of Manufactured Products.	Manufactured and Partly Manufactured Goods.		Value of Manufactured Products Available for Consumption.
		Value of Imports.	Value of Exports.[1]	
	$	$	$	$
Vegetable products	756,995,585	137,943,685	154,054,047	740,885,223
Animal products	485,021,994	37,263,368	77,556,899	444,728,463
Textile products	415,402,464	158,707,822	8,615,447	565,494,839
Wood and paper products	682,549,865	57,463,697	265,590,713	474,422,849
Iron and its products	609,632,999	342,224,541	86,520,116	865,337,424
Non-ferrous metal products	237,966,927	69,452,287	80,509,143	226,910,071
Non-metallic mineral products	206,082,141	65,924,612	8,016,304	263,990,449
Chemicals and allied products	146,975,837	37,723,046	19,822,869	164,876,014
Miscellaneous industries	85,530,097	68,330,650	14,479,519	139,381,228
Central electric stations	143,692,455	80,467	3,938,182	139,834,740
Totals, 1928	**3,769,850,364**	**975,114,175**	**719,103,239**	**4,025,861,300**
Totals, 1927	**3,425,498,540**	**825,147,919**	**648,178,000**	**3,602,468,459**
Totals, 1926	**3,247,803,438**	**767,022,008**	**673,709,266**	**3,341,116,180**
Totals, 1925	**2,948,545,315**	**671,462,940**	**695,325,245**	**2,924,683,010**
Totals, 1924	**2,695,053,582**	**576,031,243**	**591,598,479**	**2,679,486,346**
Totals, 1923	**2,781,165,514**	**639,343,645**	**591,829,306**	**2,828,679,853**
Totals, 1922	**2,482,209,130**	**574,551,323**	**515,173,415**	**2,541,587,038**

[1] For 1928 exports include all exports of partly and fully manufactured goods whether of domestic or foreign origin, but for 1927 and previous years exports are of Canadian produce only, since foreign exports for previous years have never been analysed as raw materials, partly or fully manufactured goods. Therefore in this table the value of manufactured products made available for consumption for the years 1922 to 1927 inclusive, is an overstatement by the amount of the foreign exports of manufactured goods in each year, probably varying from about $11,000,000 in 1922 to $18,000,000 in 1927.

Section 2.—Production of Industrial Groups and Individual Industries.

One of the factors in the progress of Canada is the possession of many natural resources, favourable to industrial growth. It is upon the country's agricultural resources, forests, minerals and wild life that Canada's industries are mainly based. The sea and lake fisheries also make an important contribution of raw materials to the manufacturing industries of the Dominion. Nevertheless, the industrial development of Canada was a matter of small beginnings and gradual growth over a period of many years, and the comparatively small home market, restricted at the present time to a population of about ten millions, a large part of it in scattered agricultural areas, is still one of the difficulties of the situation. Yet Canada is now not merely the second largest manufacturing country in the British Empire; her exports to the other Dominions consist largely of manufactured goods. The exports of manufactured and partly manufactured goods to the United States exceed the exports of raw materials. The rate at which this movement is to continue will depend almost entirely upon growth within the Dominion—upon the further development of the many-sided physical assets of the country.

Subsection 1.—Manufactures Grouped by Chief Component Materials.

A classification based on the chief component materials in the various products of each manufacturing establishment was applied for the first time in the compilation of the returns for 1920. The number of groups was reduced from fifteen to nine to correspond with the external trade classification and the classes of industry were somewhat altered to conform with recent industrial developments. Subsequently the central electric stations industry was taken out of the miscellaneous class and now forms a class by itself.

Vegetable Products.—With the exception of rubber, coffee and spices, sugar factories and rice mills, the industries of this group are dependent mainly upon domestic farm products as raw materials. The milling industry, which has existed to meet domestic needs for more than 300 years, is one of the Dominion's oldest industries, but it is only within recent times that its progress has become spectacular. The war, and the demand it created gave a great impetus to this trade, and the 423 flour mills, many of them of the most modern type and highest efficiency, have now attained a capacity far in excess of Canada's demands. During 1928, productive capacity reached about 121,000 barrels per day. Since then, the industry has been adversely affected by the difficulties which beset the Canadian grain trade and the great decline in the prices of grains. Exports of wheat flour declined from 11,808,775 barrels in the crop year ended July 31, 1929, to 6,778,023 barrels in the following crop year. The flour manufactured from Canadian hard spring wheat is of very high baking quality and a recovery of purchasing power in Europe and the Orient would contribute toward the return of flour exports to their former volume. Other industries contributing largely to food manufacture are sugar refineries, bread, biscuits, etc., and, to a lesser degree, plants engaged in the canning of fruits and vegetables.

Raw material imported from tropical countries forms the basis for an industry of a different character. Canada is now among the leading countries of the world as a manufacturer of rubber goods. Existing plants represented in 1929 a capital of over $73,000,000 and gave employment to more than 17,700 workers receiving $20,000,000 in wages and salaries and producing goods to the value of over $97,000,000.

The beverage industries—breweries, distilleries and wineries—which are important elements of the vegetable products group, have expanded from a production of $30,000,000 in 1922 to $111,000,000 in 1929, owing partly to the modification of prohibition laws in Canada and also to the fact that a large part of their production was exported to the United States. The tobacco industries, another important factor in the vegetable products group, had a total production in 1929 of nearly $85,000,000.

Animal Products.—Another form of food manufacture—that of slaughtering and meat-packing—has also made great strides. It comes as a surprise to many that slaughtering and meat-packing was until lately at the head of all the single industries in regard to the value of the products, and is now only surpassed by the pulp and paper and flour-milling industries. Another industry which manufactures a product of farm animals and has been for many years of leading importance in Canada is the butter and cheese industry. Originating in the agricultural districts of the Maritime Provinces, the Eastern Townships of Quebec, and the southern counties of Ontario, it is now developing rapidly in the Prairie Provinces and in the more recent northern settlements of Quebec and Ontario. For an industry so large in the aggregate, it is unique in having shown very little tendency toward consolidation in large units, the gross production of $126,000,000 in 1929 coming from no fewer than 2,767 plants, mostly small and scattered at convenient points throughout the farming communities. Many of the plants are operated on the co-operative basis. The leather industries also have long been established on a considerable scale, mainly, of course, because the large number of cattle raised and slaughtered provide a ready supply of hides. There are large tanneries in the eastern provinces, and no fewer than 191 boot and shoe factories were in operation in 1929, chiefly in Quebec and Ontario, representing a total capital of over $31,000,000 with an annual output of $49,000,000, and employing 15,563 men and women. The canning and preserving of fish also calls for reference. Concentrated naturally upon the Pacific and Atlantic coasts, 730 establishments were engaged in 1929 in the canning, curing and packing of various kinds of fish.

Textiles.[1]—Although the production of cotton and woollen fabrics, hosiery, knitted goods, men's and women's clothing and so forth amounted in 1929 to a gross total valued at over $426,000,000, considerable quantities of yarns and cloth are still imported into Canada. Canadian textile factories are capable of supplying ordinary domestic needs without undertaking the production of the highest grade materials such as are manufactured in Great Britain, where for several centuries hereditary skill has been developed. The imports of manufactured or partly manufactured textiles during the fiscal year ended Mar. 31, 1930, were $146,032,889 or 34 p.c. of the gross value of the manufactured product during the calendar year 1929.

While the most important industry in the textile group in Canada is the manufacture of cotton yarn and cloth, the products of which in 1929 were valued at over $78,000,000, the chief development of textile industries has been in the manufacture of clothing and wearing apparel from both domestic and imported piece goods and yarns. Thus in 1928, if the men's and women's factory clothing, corsets, men's furnishing goods, hats and caps and hosiery, knit goods and fabric gloves industries be grouped together, the total products amounted to about $228,000,000 or 54 p.c. of the production in the whole textile group in Canada.

The woollen industry may be divided into four sections, according as the chief product of value is cloth, yarn, carpets and mats, or miscellaneous goods. Of the 119 plants in operation during 1929, 44 were engaged chiefly in manufacturing cloth, 27 in making yarns, 22 in making carpets and rugs and 26 in making miscellaneous woollen goods. The total value of woollen goods manufactured by the four classes of mills during 1929 amounted to $35,180,000, as compared with $34,700,000 in 1928.

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[1] A sketch of the cotton industry, which is the most important of the textile group, is given under the heading of "Typical Individual Manufactures" at p. 429 in the Manufactures section of the Canada Year Book, 1924.

Wood and Paper.—An outstanding feature of the general expansion of Canadian commerce since the opening of the century has been the change in the industries associated with forestry. Lumber output has fluctuated greatly and actually decreased in recent years, as a result of the post-war depression. For example, in 1911 the output of manufactured lumber was 4,918,000 M board feet, valued at $75,831,000, as compared with 4,741,941 M feet, valued at $113,349,886, in 1929. In contrast with this is the progress in pulp and paper production. The census of 1881 recorded only 36 paper and 5 pulp-mills in existence in Canada. In 1929 there were 108 pulp and paper-mills, consuming more than 5,278,422 cords of pulpwood in the year and using hydro power to the extent of about 1,400,000 h.p. Production of wood pulp in 1917 was 1,464,308 tons and in 1929, 4,021,229 tons. Production of newsprint in 1917 was 689,847 tons, in 1921, 805,114 tons, in 1923, 1,252,000 tons and in 1924, 1,388,081 tons. In 1929 the production was 2,725,331 tons, an increase of 13 p.c. over 1928. Included in the totals are hanging and poster papers. Canadian production in 1929 exceeded that of the United States by 1,300,000 tons or 95 p.c., so that Canada now occupies first place among the countries of the world in the production of newsprint paper.

Iron and Steel.—The primary production of iron and steel in Canada has always been handicapped by the fact that nowhere in Canada have workable deposits of coal and iron ore been found in juxtaposition. The nearest approach is in Nova Scotia, where there is an abundant supply of coal, while iron ore is obtained from Newfoundland. In Central Canada, where the secondary iron and steel industries are chiefly located, there are at present neither supplies of coal nor high-grade deposits of iron ore. There is a possibility, however, that high-grade bodies of ore may be found, and eventually the huge reserves of low grade ores now known to exist may be utilized.

Iron ore, which was imported chiefly from Newfoundland and the State of Minnesota, was converted into pig iron in 1928 by the following companies:—Steel Company of Canada, Ltd., at Hamilton, Ont.; the Algoma Steel Corporation at Sault Ste. Marie, Ont.; the Canadian Furnace Co. at Port Colborne, Ont.; and the Dominion Iron and Steel Co. Ltd., at Sydney, N.S. These 4 blast furnace plants, together with 23 steel furnaces, 12 rolling mills and one smelter for making ferro-manganese, accounted for a capital of $114,292,363 and a gross production valued at $62,071,674. There were, in 1929, no fewer than 1,169 establishments handling iron and steel products, aside from the numerous custom and repair shops engaged in re-conditioning iron and steel goods. The plants represented a capital of $754,989,105 and had a gross output valued at $738,012,980. A great deal of this output is represented by agricultural implements, for which there is a large domestic demand, by factory and railway equipment and commercial and passenger motor vehicles. The output of automobiles has increased rapidly in recent years, the total production in 1922 being valued at $81,956,429, in 1925 at $110,835,380, in 1926 at $133,598,456, and in 1929 $177,315,593, so that this industry had in recent years a greater production than any other in the iron and steel group and in 1929 stood fourth in gross production among all the industries of Canada.

Non-Ferrous Metals.—During 1929 there were 408 plants in Canada manufacturing products from metals other than iron and steel. Employment showed an increase from 18,222 in 1922 to 21,409 in 1923, 27,735 in 1925, and 39,867 in 1929.

One of the leading industries in this group in recent years has been the manufacture of electrical apparatus and supplies; this industry had in 1929 a gross production of $113,796,002. The industry is showing rapid growth in keeping with the widely increasing development and utilization of hydro-electric energy in Canada. The development of cheap electric power has done much to popularize the use of electrical equipment for both domestic and industrial purposes, and the future demand for such apparatus will probably be limited only by the development of adequate power.

The non-ferrous smelting and refining industry has shown a marked expansion in recent years, due to the increased capacity of the Trail smelter and the great activity of the copper smelter at Anyox, British Columbia, the enlargement of the nickel-copper smelting facilities and the proposed new copper refinery in the Sudbury district of Ontario, the new copper smelter at Noranda, and the activities of the aluminium plant at Arvida, Quebec. A new smelter which will smelt the ores from the Flin Flon and Sherritt-Gordon mines is practically completed at Flin Flon, Manitoba.

Another industry of some importance consisted of 102 firms engaged principally in the rolling, casting, and manufacturing of brass and copper, the principal products being castings and machinery fittings, brass steam fittings, plates and sheets, rods and wire cloth. The selling value of the products was $36,115,581, while the materials were worth $21,118,038.

Non-Metallic Minerals.—The gradual recovery in business conditions since 1921 is demonstrated by developments in the non-metallic mineral group. The recent expansion is accentuated by the growth of the petroleum products industry, which in 1929 produced over 40 p.c. of the gross value of the entire production of the group. This industry included, in 1929, 10 blending plants and 15 plants for the refining of crude oils. The refining plants were located with a view to economy of distribution, based on the greatest accessibility to the source of supply and the proximity of the markets. The refineries on the eastern and western coasts obtain their crude petroleum from South America, Mexico and the United States by tank steamers, bringing transportation costs to a minimum. Those situated in the central part of the Dominion are necessarily supplied by rail or pipeline. The more general use of the automobile has resulted in a continually expanding demand for gasolene and lubricating oils. The installation of oil-using equipment in industrial plants for generating power and in buildings of various kinds for heating purposes has also increased the consumption of fuel oil.

The coke and gas industry of Canada is chiefly centred in the larger cities, especially in parts of the country where manufacturing predominates. Coke, coal gas and carburetted water gas are the most important products, but pintsch gas is made at many divisional points along the railways to meet the demand for lighting purposes on passenger trains. Acetylene gas is used in several small towns where the size of the municipality is not sufficient to warrant a coal gas plant. The facility with which by-products, such as coke, tar and light oils, are turned out in connection with large-scale production, becomes an incentive to plant expansion, provided that a demand is assured by increasing population and industrial development in the vicinity. The burning of coke in the house furnace, the necessity of enriching the soils with nitrates, the increase of refrigerating operations and the extended use of tar products have prompted the larger plants to increase their output. The industry is also intimately connected with the iron and steel industry and depends upon the demand of the non-ferrous smelting plants. By-product coke plants are maintained at Sydney, Hamilton and Sault Ste. Marie by the three principal iron and steel companies and by the Hamilton By-Product Coke Co. The Crow's Nest Pass Co., and the Granby Consolidated Mining, Smelting and Power Co. also operate plants for the manufacture of metallurgical coke.

Other industries of a varied nature included in this group are the manufacture of asbestos products, the glass industry, the manufacture of abrasives, the preparation of ornamental and monumental stone, the bottling of aerated waters and the manufacture of various clay products and cement.

Chemicals.—New developments in Canada's chemical industries serve to focus attention on the growth of these great enterprises. At the present time the expansion in this field is more noticeable than at any other period since the abnormal expansion during 1914-1918, when war demands necessitated the establishment of many new lines of production.

At Trail, B.C., large chemical plants are shortly to be erected. The sulphuric acid plant, using the gases from the zinc roasting process, will be enlarged. Nitrogen obtained through the liquefaction of air will be converted to ammonia, and both ammonium phosphate and ammonium sulphate will be made, as well as superphosphate of lime for use as fertilizer. New superphosphate plants are being built at Hamilton, Ont., and Belœil, Que.

At Sandwich, Ontario, where caustic soda and chlorine have been made for many years by the electrolysis of brine, by-product hydrogen formerly wasted is being saved and made into ammonia by the Casale process. This ammonia is shipped to Belœil and there oxidized to nitric acid for use in the manufacture of explosives and fertilizers.

In the Sudbury area, owing to the growth of the nickel-copper industry which uses large quantities of acid sodium sulphate in the smelting process, a new chemical plant is being erected to make acid sodium sulphate from the Saskatchewan natural sulphate. This is a notable development in that the new works will produce only a material that was formerly considered to be a waste product. This development involves the enlargement of the sulphuric acid plant using the waste gases from the smelter.

The growth of the ten main groups of chemical industries in Canada may be realized by noting that the total gross production of these industries in 1921 was about $89 millions and in 1929 nearly $138 millions.

The chemical industries of the Dominion may be arranged in the following order of importance, based on the gross value of product:—(1) acids, alkalies, salts and compressed gases, (2) paints, pigments and varnishes, (3) soaps, washing compounds and toilet preparations, (4) medicinal and pharmaceutical preparations, (5) explosives, ammunition, fireworks and matches, (6) coal tar products, (7) inks, dyes and colours, (8) fertilizers, (9) wood distillates, and (10) a miscellaneous group of industries not otherwise classified. These industries contribute in no small measure to the diversification of Canadian manufactures and add appreciably to the volume of production. If the larger definition of chemical industries be taken as including all industries using chemical processes, the field covered represents not less than one-fifth of the aggregate of Canadian manufactures.

Central Electric Stations.—Beginning with 1926, central electric stations have been taken out of group 9—Miscellaneous Industries—and shown as a separate group. The purpose of the separation is to facilitate the presentation of the statistics of the power installed in manufacturing establishments. Practically all other industries produce either wholly finished goods or products which are used as materials for further processes of manufacture. The product of the central electric station industry is not a material in the same sense, but is electrical energy which supplies the power for many of the manufacturing processes, as well as for mining enterprises, electric railways and the various lighting and domestic services. Included in the establishments reported as central electric stations, in addition to the plants where power is generated from water, steam or some other primary source, are numerous distributing plants which buy power at high voltage from the generating establishments and transform and distribute it to local consumers. In such cases, where the distributing stations are separate organizations from the generating system, there is therefore a duplication in the gross revenue reported from the sale of power. The economic function performed by the distributing station is similar to that of a manufacturing industry which transforms materials to meet the requirements of the consumer. Therefore the cost of power purchased by distributing stations is regarded as a cost of material, and a figure of net revenue is given from which all duplications are eliminated. This treatment has been applied to the figures for 1926 and later years and introduces a slight element of incomparability with figures for previous years.

The principal statistics of each of the manufacturing industries of Canada during 1928 are presented in Table **6** on pp. 424-429.

6.—Statistics of the Numbers, Capital, Employees, Salaries and Wages, Cost of

No.	Group and Kind of Industry.	Establishments.	Capital Employed.	Salaried Employees.		
				Male.	Female.	Salaries.
		No.	$	No.	No.	$
	Canada	**23,379**	**4,780,296,049**	**69,858**	**21,385**	**174,770,879**
	TOTALS BY PROVINCES.					
1	Prince Edward Island	277	3,121,568	151	31	183,976
2	Nova Scotia	1,167	138,809,331	1,383	395	2,850,760
3	New Brunswick	794	114,660,886	1,313	375	3,130,601
4	Quebec	7,231	1,583,350,884	20,109	5,137	49,485,152
5	Ontario	9,900	2,275,921,056	36,204	12,958	94,376,781
6	Manitoba	871	159,721,124	3,169	829	7,545,721
7	Saskatchewan	737	44,622,135	1,269	236	2,589,414
8	Alberta	778	92,190,476	1,810	458	4,020,520
9	British Columbia and Yukon	1,624	367,898,589	4,450	966	10,587,954
	TOTALS BY GROUPS.					
1	Vegetable products	4,845	531,918,725	9,035	2,755	22,902,282
2	Animal products	4,542	243,550,121	8,764	2,008	16,892,279
3	Textiles and textile products	1,885	365,721,591	6,517	3,234	19,085,001
4	Wood and paper products	7,290	1,158,651,534	15,351	4,601	40,361,890
5	Iron and its products	1,159	702,931,186	11,488	3,314	30,307,217
6	Non-ferrous metal products	406	253,367,370	5,003	1,749	12,748,626
7	Non-metallic mineral products	1,178	298,693,122	2,996	654	6,983,637
8	Chemicals and chemical products	572	148,939,920	3,294	1,217	8,579,680
9	Miscellaneous industries	453	119,602,877	2,407	642	6,451,109
10	Central electric stations	1,049	956,919,603	5,003	1,211	10,459,158
	GROUP 1.—VEGETABLE PRODUCTS.					
	Totals	**4,845**	**531,918,725**	**9,035**	**2,755**	**22,902,282**
1	Biscuits, confectionery, cocoa and chocolate	283	52,353,082	1,810	697	4,571,812
2	Bread and other bakery products	2,482	44,377,449	659	322	1,518,595
3	Breweries	78	67,148,686	835	118	2,295,187
4	Cigars and cigarettes	79	37,243,547	1,051	296	2,530,477
5	Coffee and spices	61	14,599,825	435	137	1,247,041
6	Distilleries	18	51,287,103	249	64	771,765
7	Feed and grist mills	896	5,947,496	21	11	45,657
8	Flour mills	423	57,567,079	889	200	2,111,620
9	Fruit and vegetable canning, evaporating, etc	216	27,920,624	375	124	805,551
10	Ice-cream cones	10	582,128	8	2	24,859
11	Linseed oil and oil cake	8	2,394,331	32	5	90,267
12	Macaroni and vermicelli	11	1,250,832	49	14	89,120
13	Malt mills	6	6,533,330	53	7	122,060
14	Maple syrup and sugar	6	412,566	15	3	49,496
15	Miscellaneous food industries	56	9,650,907	191	76	509,960
16	Miscellaneous vegetable products	6	2,861,429	22	2	58,155
17	Pickles, vinegar and cider	62	8,047,231	142	51	338,797
18	Rice mills	5	1,331,679	22	3	67,076
19	Rubber footwear	11	16,236,188	663	218	1,267,862
20	Rubber tires and other rubber goods	34	54,222,878	986	278	2,334,891
21	Starch and glucose	6	5,446,548	39	19	156,509
22	Sugar refineries	8	48,625,818	239	60	922,969
23	Syrups	6	180,004	5	6	14,394
24	Tobacco, chewing, smoking and snuff	36	9,992,397	192	31	814,481
25	Wines and grape juice	38	5,705,568	53	11	143,681
	GROUP 2.—ANIMAL PRODUCTS.					
	Totals	**4,542**	**243,550,121**	**8,764**	**2,008**	**16,892,279**
1	Animal hair goods	6	697,180	17	4	50,055
2	Animal oils and fats	6	850,226	6	5	27,226
3	Belting leather	10	1,847,919	60	16	155,274
4	Boot and shoe findings	14	1,457,276	33	5	93,681
5	Boots and shoes, leather	199	31,433,028	1,002	368	2,713,166
6	Butter and cheese	2,804	45,129,830	3,519	594	4,514,041
7	Condensed milk	29	8,422,489	127	48	324,346
8	Fish-curing and -packing	713	26,941,283	577	53	853,800
9	Fur dressing and dyeing	12	1,744,997	65	10	176,103
10	Fur goods	225	13,189,290	383	185	1,081,976
11	Gloves and mittens, leather	49	3,845,708	151	66	349,632
12	Harness and saddlery	214	5,304,020	178	45	338,695
13	Human hair goods	4	47,211	1	1	2,656
14	Leather goods, n.e.s	40	1,493,793	86	41	216,975
15	Leather, tanned, etc	91	31,259,692	240	52	796,768
16	Sausages and sausage casings	32	1,220,595	50	14	109,531
17	Slaughtering and meat-packing	75	66,198,507	2,200	477	4,898,201
18	Trunks, bags, etc	19	2,467,077	69	24	190,153

Materials and Value of Products of Canadian Manufacturing Industries, 1928.

Wage-Earners.			Power Installed.	Cost of Fuel Used.	Cost of Materials.	Value of Products.		No.
Male.	Female.	Wages.				Net.	Gross.	
No.	No.	$	H.P.	$	$	$	$	
441,189	**125,591**	**580,428,493**	**6,239,955**[1]	**59,761,267**	**1,950,804,339**	**1,819,046,025**	**3,769,850,364**	
1,121	732	528,969	7,219	110,817	2,747,292	1,697,868	4,445,160	1
14,008	3,436	12,987,634	207,928	2,974,941	44,168,441	40,780,167	84,948,608	2
12,656	3,619	11,551,909	151,489	1,700,741	39,750,561	27,663,181	67,413,742	3
131,279	48,434	168,402,329	3,481,309	17,320,310	510,580,872	562.581,419	1,073,162,291	4
213,754	57,813	296,999,166	3,010,179	28,791,474	1,034,501,240	915,222,879	1,949,724,119	5
17,540	3,628	25,023,502	442,629	2,069,449	88,284,693	71,150,401	159,435,094	6
4,201	467	5,414,163	99.995	1,781,992	34,186,731	24,938,549	59,125,280	7
8,915	1,644	11,382,772	159,202	1,544,523	59,398,697	41,345,704	100,744,401	8
37,715	5,818	48,138,049	819.134	3,467,020	137,185,812	133.665,857	270,851,669	9
48,675	23,299	65,217,060	309,611	6,793,577	439,922,128	317,073,457	756,995,585	1
41,627	15,378	45,058,352	104,166	3,362,773	351,324,498	133,697,496	485,021,994	2
41,156	62,817	84,366,324	163,779	3,684,772	223,730,616	191,671,848	415,402,464	3
126,820	11,233	138,882,808	1,908,738	14,428,373	293,159,913	389,389,952	682,549,865	4
101,159	3,238	138,012,821	488,521	10,647,270	309,618,074	300,014,925	609,632,999	5
24,692	4,124	34,749,216	294,642	3,246,564	98,746,019	139,220,908	237,966,927	6
24,251	749	30,152,814	181,666	12,861,215	93,683,873	112,298,268	206,082,141	7
8,826	2,793	11,710,737	71,401	1,832,453	74,163,334	72,812,503	146,975,837	8
14,342	1,960	18,650,099	69,660	623,865	35,090,248	50,439,849	85,530,097	9
9,641	–	13,628,262	4,786,900	2,280,405	31,365,636	112,326,819	143,692,455	10
48,675	**23,299**	**65,217,060**	**309,611**	**6,793,577**	**439,922,128**	**317,073,457**	**756,995,585**	
4,554	6,213	7,962,817	19,854	575,370	28,480,230	31,923,993	60,404,223	1
12,495	1,946	15,382,643	12,467	1,588,646	36,151,747	35,075,350	71,227,097	2
4,014	36	4,785,574	38,344	594,716	20,737,486	40,172,912	60.910,398	3
1,966	3,331	3,667,441	2,327	72,929	18,469,843	42,607,889	61,077,732	4
671	425	1,044,002	3,124	42,851	21,257,199	5,944,093	27,201,292	5
1,259	312	1,788,694	7,827	526,545	10,137,114	28,286,629	38,423,743	6
1,238	1	815,602	34,247	83,647	20,164,304	3,462,025	23,626,329	7
4,054	142	4,633,795	84,848	515,124	144,868,517	27,203,278	172,071,795	8
2,396	4,555	2,559,380	10,306	262,470	15,144,100	9,746,329	24,890,429	9
60	30	69,724	84	29,815	136,291	381,143	517,434	10
197	1	232,504	1,997	18,828	5,514,568	766,487	6,281,055	11
130	106	157,301	904	7,754	902,958	573,213	1,476,171	12
167	–	251,478	4,527	175,925	3,972,005	1,545,354	5,517,359	13
30	2	30,397	87	6,303	815,560	185,227	1,000.787	14
513	287	845,661	4,792	86,272	5,766,863	5,910,223	11,677,086	15
87	9	107,493	1,661	51,659	2,795,129	1,338,395	4,133,524	16
649	533	982,974	2,044	113,523	5,054,480	5,368,813	10,423.293	17
46	–	48,441	470	360	1,458,184	253,731	1,711,915	18
4,246	2,892	6,077,169	16,019	175,763	9,935,647	20,811,565	30,747,212	19
6,523	1,289	9,263,808	41,149	429,261	35,182,923	31,278,578	66,461,501	20
420	17	457,291	2,030	218,385	3,778,927	1,676,108	5,455,035	21
1,979	103	2,748,117	18,881	1,163,859	40,551,874	11,533,281	52,085.155	22
15	14	17,330	31	3,716	154,689	96,161	250,850	23
762	1,035	1,073,802	1,003	35,016	6,284,824	9,464,801	15,749,625	24
204	20	213,622	588	14,845	2,206,666	1,467,879	3,674,545	25
41,627	**15,378**	**45,058,352**	**104,166**	**3,362,773**	**351,324,498**	**133,697,496**	**485,021,994**	
67	23	71,092	377	5,246	255,359	392,219	647,578	1
104	4	119,563	333	23,720	335,088	267,190	602,278	2
183	1	165,897	450	8,414	1,087,247	552,595	1,639,842	3
246	84	236,993	1,499	19,883	675,855	732,302	1,408,157	4
8,563	5,572	12,269,442	6,929	133,858	26,383,043	23,635,759	50,018,802	5
7,077	221	7,241,506	26,879	1,077,462	99,202,776	31,009,532	130,212,308	6
619	52	729,209	3,598	344,430	10,386,900	3,774,406	14,161,306	7
9,053	5,751	4,407,296	11,866	451,540	20,578,767	15.688,965	36,267,732	8
634	97	626,657	879	12,170	260,185	2,261,109	2,521,294	9
1,206	1,230	2,807,769	350	23,244	13,866,832	6,889,239	20,756,071	10
625	879	1,110,036	428	16,349	3,150,901	2.218,055	5,368,956	11
815	83	888,426	896	27,360	2,842,219	2,052,079	4,894,298	12
6	7	14,016	1	272	14,491	23,746	38,237	13
297	368	531,946	150	5,656	1,139,974	1,414,643	2,554,617	14
3,561	99	3,690,060	15,314	378,137	26,253,779	8,948,301	35,202,080	15
186	19	219,489	299	15,109	1,339,790	755,134	2,094,924	16
7,787	780	9,344,161	33,116	803,977	142,396,342	31,700,077	174.096,419	17
598	108	584,794	802	15,946	1,154,950	1,382,145	2,537,095	18

Net: see pp. 460 and 461.

6.—Statistics of the Numbers, Capital, Employees, Salaries and Wages, Cost of con

No.	Group and Kind of Industry.	Establishments.	Capital Employed.	Salaried Employees. Male.	Salaried Employees. Female.	Salaried Employees. Salaries.
		No.	$	No.	No.	$
	GROUP 3.—TEXTILE PRODUCTS.					
	Totals	**1,885**	**365,721,591**	**6,517**	**3,234**	**19,085,001**
1	Awnings, tents and sails	58	2,069,798	80	30	180,977
2	Bags, cotton and jute	19	6,684,706	86	32	291,619
3	Batting	8	2,822,676	49	25	194,099
4	Carpets, mats and rugs	22	6,072,610	174	42	442,277
5	Clothing, men's factory	218	27,263,996	1,039	405	2,743,206
6	Clothing, women's factory	444	25,557,610	1,083	748	3,626,651
7	Cordage, rope and twine	14	12,173,549	87	20	276,109
8	Corsets	16	4,917,408	170	176	431,004
9	Cotton and wool waste	7	1,148,423	20	8	67,927
10	Cotton, textiles, n.e.s	21	1,163,466	39	19	97,195
11	Cotton thread	5	4,357,721	66	27	186,740
12	Cotton yarn and cloth	38	90,960,011	593	127	1,749,021
13	Dyeing, cleaning and laundry work	375	23,592,606	596	420	1,656,129
14	Flax, dressed	14	317,252	5	–	5,762
15	Furnishing goods, men's	159	21,064,504	559	275	1,398,478
16	Hats and caps	159	8,164,615	416	203	1,155,333
17	Hosiery, knit goods and fabric gloves	165	60,399,926	756	455	2,577,904
18	Linen goods	6	1,032,567	14	4	46,356
19	Miscellaneous textiles, n.e.s	5	3,099,244	44	8	102,879
20	Oiled and waterproof clothing	18	1,238,488	39	19	123,415
21	Silk goods	16	26,159,703	243	96	620,715
22	Woollen cloth	51	18,274,895	224	42	600,201
23	Woollen textiles, n.e.s	27	8,375,122	85	26	329,768
24	Woollen yarns	20	8,810,695	50	27	181,236
	GROUP 4.—WOOD AND PAPER PRODUCTS.					
	Totals	**7,290**	**1,158,651,534**	**15,351**	**4,601**	**40,361,890**
1	Beekeepers' and poultrymen's supplies	4	57,964	1	–	15,600
2	Blueprinting	15	170,972	16	5	33,375
3	Boats and canoes	118	2,279,362	48	14	121,446
4	Boxes and bags, paper	132	18,732,564	468	184	1,372,089
5	Boxes and packing cases	125	11,541,673	221	48	555,799
6	Carriages, wagons and sleighs	399	8,356,233	173	29	338,934
7	Carriage and wagon materials	6	765,546	16	3	41,884
8	Clothes pins	3	215,615	4	–	10,843
9	Coffins and caskets	38	3,514,906	51	19	151,738
10	Cooperage	77	2,236,754	35	10	93,899
11	Excelsior	9	283,365	7	4	14,999
12	Furniture and upholstering	366	39,829,474	862	346	2,607,611
13	Lasts, trees and pegs	15	1,340,889	82	15	112,776
14	Lithographing and engraving	119	19,975,562	725	349	2,453,060
15	Miscellaneous wood products	154	4,943,456	91	33	241,089
16	Paper goods, n.e.s	36	6,148,032	144	96	483,453
17	Planing mills, sash and door factories, etc	788	53,431,576	1,099	248	2,472,706
18	Printing and bookbinding	912	38,755,308	1,488	545	4,137,651
19	Printing and publishing	753	60,822,600	4,561	1,647	10,408,930
20	Pulp and paper	110	685,687,459	2,962	545	8,713,671
21	Roofing paper, wall board, etc	10	4,484,897	99	29	356,723
22	Sawmills	2,967	175,729,448	1,665	233	4,017,039
23	Sporting goods	22	1,843,501	46	24	94,458
24	Stationery and envelopes	31	4,825,518	219	90	595,609
25	Stereotyping and electrotyping	27	1,246,088	71	21	178,406
26	Woodenware	12	844,207	22	7	96,247
27	Wood-turning	30	1,568,202	36	15	89,784
28	All other industries	12	9,020,363	139	42	552,071
	GROUP 5.—IRON AND ITS PRODUCTS.					
	Totals	**1,159**	**702,931,186**	**11,488**	**3,314**	**30,307,217**
1	Agricultural implements	66	91,142,820	1,253	406	2,935,250
2	Automobiles	14	97,056,328	1,740	696	5,255,897
3	Automobile supplies	77	16,343,956	306	103	891,163
4	Bicycles and motorcycles	3	2,828,642	125	39	233,020
5	Boilers, tanks and engines	35	9,352,068	263	55	655,756
6	Castings and forgings	327	95,326,911	1,803	527	4,827,047
7	Hardware and tools	125	34,076,384	576	234	1,777,409
8	Iron and steel products, n.e.s	70	14,145,791	547	112	1,339,350
9	Machinery	161	69,404,536	1,719	542	4,410,340
10	Railway rolling stock	35	89,053,842	1,391	92	3,221,133
11	Sheet metal products	145	45,346,299	939	309	2,338,525
12	Steel and rolled products, pig iron, ferro-alloys, etc	40	114,292,363	522	92	1,542,727
13	Wire and wire goods	61	24,561,246	304	107	879,600

Materials and Value of Products of Canadian Manufacturing Industries, 1928—
tinued.

Wage-Earners.			Power Installed.	Cost of Fuel Used.	Cost of Materials.	Value of Products.		No.
Male.	Female.	Wages.				Net.	Gross.	
No.	No.	$	H.P.	$	$	$	$	
41,156	**62,817**	**84,366,324**	**163,779**	**3,684,772**	**223,730,616**	**191,671,848**	**415,402,464**	
237	213	427,283	256	8,799	1,509.610	1,125,105	2,634,715	1
299	648	708,014	1,100	19.749	12,494,239	1,789,157	14,283,396	2
128	109	233,102	664	14,617	1,734,335	1,463,314	3,197,649	3
559	362	854,527	2,267	61,666	2,370,903	2,638,337	5,009,240	4
4,729	5,706	10,342.342	1,436	78,759	24,567,328	23,909.850	48,477,178	5
3,961	10,559	13,059,243	2,875	54,629	36,233.645	27,092,856	63,326,501	6
826	397	1,256.908	7,961	30,951	7,624,155	3,215,806	10,839,961	7
72	1,000	693,280	294	7,381	2,055,416	2,191,532	4,246,948	8
179	104	244,218	1,096	8.956	1,914,870	670,376	2,585,246	9
86	316	267,720	346	8,938	1,231,922	781,152	2,013,074	10
184	475	501,615	1,829	18,769	1,969,340	2,495,641	4,464,981	11
12,139	8,756	15,939.770	80,572	1,062,438	44,704.779	34,514,803	79,219,582	12
4,311	6,342	8,970.202	14,499	1,002,489	3,007,047	20,611,776	23,618,823	13
124	4	46,715	471	6,007	78,662	154,048	232,710	14
1,217	7,858	5,872,397	2,427	65,299	17,321,124	12,993,428	30,314,552	15
1,653	2,645	3,724,072	1,741	73,170	8,290,055	8,683,138	16,973,193	16
5,165	11,598	12,478,792	15,744	521,104	31,251,936	27,299,822	58,551,758	17
65	118	120,004	589	11,251	297,461	248,080	545,541	18
151	127	226,017	626	18.911	2.053,601	514,098	2,567,699	19
141	160	303,199	113	10,912	826,524	897,870	1,724,394	20
1,513	2,081	2,820,834	7,808	167,691	4,638.717	6,258,556	10,897,273	21
1,935	1,795	3.163,737	11,063	279,665	9,270,861	5,791,220	15,062,081	22
715	377	877,269	4,094	80,152	3,494,918	3,414.311	6,909,229	23
767	1,045	1,235,064	3,908	77,469	4,789,168	2,917,572	7,706,740	24
126,820	**11,233**	**133,882,808**	**1,908,738**	**14,428,373**	**293,159,913**	**389,389,952**	**682,549,865**	
15	–	11,316	41	638	53,965	36,859	90,824	1
60	8	60,234	59	1,199	77,750	200,144	277,894	2
710	6	684,982	1,253	9.888	443.786	1,554,099	1,997,895	3
1,925	2,536	3,470,396	5,817	83.708	10,825,855	10,286,396	21,112,251	4
3,100	274	2,701,778	13,865	36.208	5,333,513	5,239,498	10,573,011	5
2,192	7	2,273,121	4,054	95,813	3,688.371	4,506,565	8,194,936	6
143	1	158,173	708	6,678	430,668	370,053	800,721	7
156	45	123,186	714	60	99,300	292,508	391,808	8
530	97	619,297	2,278	22,834	1,319,555	1,615,350	2,934,905	9
554	3	511,080	2,381	15,128	2,382,415	1,215,074	3,597,489	10
64	23	53,150	558	379	87,158	139,642	226,800	11
10,810	521	11,081,733	20,040	364.579	16,312,469	25,513,065	41,825,534	12
347	123	400,497	882	10,304	294,875	971,455	1,266,330	13
3,029	1,267	5,865,132	4,498	75,716	5,858,493	13,349,165	19,207,658	14
1,012	62	755,086	3,313	16,897	1,466,832	2,309,004	3,775,836	15
619	202	894,286	3,094	61,560	4,042,970	3,672,255	7,715,225	16
10,674	110	10,858,123	52,311	158,744	30,021,888	22,678,427	52,700,315	17
7,232	2,529	11,554,482	10,174	147,382	13,321,821	27,696,645	41,018,466	18
8,421	1,484	13,834,976	18,810	308,289	15,696,759	52,183,047	67,879,806	19
29,253	854	38,608,977	1,459,256	12,403,083	88,490,421	144,586,815	233,077,236	20
294	7	379,113	1,138	83,383	2,959,463	2,884,924	5,844,387	21
42,888	76	30,704,481	296,914	363,232	80,451,801	58,972,953	139,424,754	22
317	109	371,681	856	10,111	878,529	1,118,494	1,997,023	23
375	689	953,806	889	13,926	3,960,550	2,700,326	6,660,876	24
258	6	449,087	566	11,338	132,043	1,047,253	1,179,296	25
419	24	316,927	916	7,015	452,992	614,484	1,067,476	26
487	60	384,029	1,837	4,860	443,197	817,240	1,260,437	27
936	110	803,679	1,516	115,421	3,632,464	2,818,212	6,450,676	28
101,159	**3,238**	**133,012,821**	**488,521**	**10,647,270**	**309,618,074**	**300,014,925**	**609,632,999**	
9,108	100	10,664,703	22,924	510,654	17,607,861	23,591,980	41,199,841	1
14,075	238	24,292,217	34,174	717,601	114,892,190	47,975,305	162,867,495	2
2,835	265	3,865,246	7,373	203,686	8,358,404	8,648,753	17,007,157	3
354	35	414,944	1,023	19,131	1,019,421	1,194,072	2,213,493	4
1,432	2	1,737,444	7,629	87,712	3,228,497	3,278,9 0	6,507,437	5
18,124	328	21,931,969	53,328	1,553,698	31,530,148	50,374,704	81,904,852	6
5,046	875	6,023,770	15,296	385,149	8,589,661	16,542,160	25,131,821	7
3,072	25	3,939,968	7,965	88,903	7,922,881	9,644,134	17,567,015	8
8,328	266	10,527,756	35.254	367.905	18,976.526	32,069.614	51,046.140	9
20,891	43	29,231,648	90,974	1,321,091	38,110,053	35,312,004	73,422,057	10
6,668	816	8,298,451	16,530	468,245	24,660,978	25,185,693	49,846,671	11
8,419	24	13,928,109	183,177	4,722,021	27,164,463	34,907,211	62,071,674	12
2,807	221	3,156,596	12,874	201,474	7,556,991	11,290,355	18,847,346	13

6.—Statistics of the Numbers, Capital, Employees, Salaries and Wages, Cost of con

No.	Group and Kind of Industry.	Establishments.	Capital Employed.	Salaried Employees.		
				Male.	Female.	Salaries.
		No.	$	No.	No.	$
	GROUP 6.—NON-FERROUS METAL PRODUCTS.					
	Totals	**406**	**253,367,370**	**5,003**	**1,749**	**12,748,626**
1	Aluminium products	14	5,094,213	54	15	155,473
2	Brass and copper products	97	23,576,863	762	193	1,704,425
3	Electrical apparatus and supplies	137	87,952,674	3,125	1,218	7,797,539
4	Lead, tin and zinc products	25	4,673,882	95	47	268,363
5	Miscellaneous non-ferrous metal products	17	943,914	40	6	113,370
6	Non-ferrous smelting and refining	10	120,035,742	612	73	1,635,580
7	Precious metal products	106	11,090,082	315	197	1,073,876
	GROUP 7.—NON-METALLIC MINERAL PRODUCTS.					
	Totals	**1,178**	**298,693,122**	**2,996**	**654**	**6,983,637**
1	Abrasive products	12	7,317,105	67	25	213,268
2	Aerated and mineral waters	347	11,650,938	442	75	850,034
3	Asbestos and allied products	14	3,064,164	53	13	134,084
4	Cement	11	47,678,841	113	9	256,867
5	Cement products	151	4,140,543	146	12	283,545
6	Clay products, domestic	186	32,473,203	321	48	806,209
7	Clay products from imported clays	14	3,068,562	65	15	217,895
8	Coke and gas products	45	92,145,190	653	230	1,304,534
9	Glass products	59	12,964,882	221	66	574,442
10	Lime	54	6,952,079	84	16	184,732
11	Miscellaneous non-metallic products	17	8,331,500	102	24	260,818
12	Petroleum products	25	56,531,614	412	62	1,169,042
13	Salt	10	4,422,922	45	16	117,376
14	Sand-lime brick	11	1,916,060	20	3	65,343
15	Stone, ornamental and monumental	222	6,305,519	252	40	545,448
	GROUP 8.—CHEMICALS AND ALLIED PRODUCTS.					
	Totals	**572**	**148,939,920**	**3,294**	**1,217**	**8,579,680**
1	Acids, alkalies, salts and compressed gases	41	44,250,661	498	105	1,162,275
2	Coal tar and its products	19	4,924,681	47	13	132,291
3	Explosives, ammunition, fireworks and matches	14	19,361,448	150	15	320,306
4	Fertilizers	12	2,131,905	28	14	79,445
5	Inks, dyes and colours	28	3,052,322	116	37	464,018
6	Medicinal and pharmaceutical preparations	140	17,427,506	584	350	1,783,162
7	Miscellaneous chemical industries	128	10,726,946	476	226	1,233,226
8	Paints, pigments and varnishes	68	24,256,008	774	224	2,076,138
9	Soaps, washing compounds and toilet preparations	115	20,923,508	607	233	1,304,021
10	Wood distillates and extracts	7	1,884,935	14	–	24,798
	GROUP 9.—MISCELLANEOUS INDUSTRIES.					
	Totals	**453**	**119,602,877**	**2,407**	**642**	**6,451,109**
1	Advertising and other novelties	10	273,273	8	4	22,101
2	Artificial feathers and flowers	7	263,355	14	18	39,305
3	Bridge building	10	24,485,779	724	96	2,028,291
4	Brooms, brushes and mops	76	4,363,107	186	71	472,737
5	Buttons	13	1,468,361	48	17	141,940
6	Candles and tapers	11	534,769	14	3	27,298
7	Fountain pens	4	1,390,372	38	17	99,717
8	Ice, artificial	29	4,979,236	30	4	75,898
9	Jewel cases and silverware cabinets	6	223,136	13	12	28,182
10	Mattresses and springs	63	8,155,255	200	65	632,298
11	Motion pictures	7	662,628	36	9	49,111
12	Musical instruments and materials	42	14,050,702	242	100	653,075
13	Refrigerators	11	1,343,842	25	11	81,411
14	Regalia and society emblems	11	222,333	11	12	36,625
15	Scientific and professional equipment	21	16,979,027	119	79	410,049
16	Shipbuilding and repairs	42	37,072,996	533	57	1,239,541
17	Stamps and stencils	31	619,888	61	20	120,184
18	Statuary, art goods and church supplies	30	747,043	37	21	84,597
19	Store and display fixtures	3	244,773	8	6	22,339
20	Toys and games	10	232,418	9	2	19,216
21	Typewriter supplies	4	592,887	26	11	103,746
22	Umbrellas and parasols	9	548,984	21	7	56,304
23	All other industries	3	148,713	4	–	7,144
	GROUP 10.—CENTRAL ELECTRIC STATIONS.					
	Totals	**1,049**	**956,919,603**	**5,003**	**1,211**	**10,459,158**

Materials and Value of Products of Canadian Manufacturing Industries, 1928— cluded.

Wage-Earners.			Power Installed.	Cost of Fuel Used.	Cost of Materials.	Value o fProducts.		No.
Male.	Female.	Wages.				Net.	Gross.	
No.	No.	$	H.P.	$	$	$	$	
24,692	**4,124**	**34,749,216**	**294,642**	**3,246,564**	**98,746,019**	**139,220,908**	**237,966,927**	
468	72	649,920	2,919	37,194	1,865,328	1,327,368	3,192,696	1
4,067	415	5,092,991	14,976	371,911	15,716,748	12,740,682	28,457,430	2
10,892	2,958	14,958,670	49,748	601,457	38,784,421	54,888,031	93,672,452	3
437	65	491,240	1,953	40,729	4,105,167	1,388,193	5,493,360	4
137	44	156,437	185	5,488	304,387	802,252	1,106,639	5
6,804	37	10,593,158	221,884	2,133,998	33,260,225	61,081,477	94,341,702	6
1,887	533	2,806,800	2,977	55,787	4,709,743	6,992,905	11,702,648	7
24,251	**749**	**30,152,814**	**181,666**	**12,861,215**	**93,683,873**	**112,398,268**	**206,082,141**	
594	5	835,253	3,894	29,652	2,169,428	4,953,160	7,122,588	1
1,360	90	1,557,827	2,270	80,754	4,705,656	5,972,175	10,677,831	2
250	29	287,364	2,014	43,582	925,661	1,124,771	2,050,432	3
2,285	–	3,148,518	73,609	3,088,979	–	16,739,163	16,739,163	4
1,101	3	1,182,963	2,258	44,833	1,261,653	2,875,302	4,136,955	5
4,826	–	4,375,189	25,400	2,005,053	–	12,381,718	12,381,718	6
568	48	673,230	20,957	1,912,066	708,571	1,750,230	2,458,801	7
3,024	7	4,304,245	7,478	928,767	17,164,246	17,544,201	34,708,447	8
2,607	325	3,303,723	766	181,464	4,791,486	8,773,868	13,565,354	9
1,118	–	1,131,383	4,426	856,890	–	4,534,568	4,534,568	10
696	173	856,955	6,293	143,721	1,790,404	3,009,236	4,799,640	11
3,820	25	5,753,538	22,851	3,219,639	57,383,841	25,738,331	83,122,172	12
358	36	422,399	1,920	234,754	–	1,495,971	1,495,971	13
258	–	286,968	1,474	71,066	322,027	790,439	1,112,466	14
1,386	8	2,033,259	6,056	19,995	2,460,900	4,715,135	7,176,035	15
8,826	**2,793**	**11,710,737**	**71,401**	**1,832,453**	**74,163,334**	**72,812,503**	**146,975,837**	
2,330	10	2,981,027	45,406	652,033	23,404,991	18,931,855	42,336,846	1
197	4	255,372	446	132,699	2,734,823	1,671,084	4,405,907	2
1,253	590	1,539,933	6,450	156,410	6,652,193	6,869,527	13,521,720	3
206	3	201,664	649	12,135	1,446,800	743,186	2,189,986	4
236	48	341,355	1,049	15,995	1,182,603	2,151,565	3,334,168	5
773	960	1,591,862	1,967	75,242	5,707,934	11,516,417	17,224,351	6
917	404	1,204,200	3,593	142,108	6,033,188	6,799,599	12,832,787	7
1,645	238	1,891,157	6,110	214,142	14,489,934	13,378,112	27,868,046	8
1,066	536	1,484,527	5,211	241,468	11,684,391	9,932,626	21,617,017	9
203	–	219,640	520	190,221	826,477	818,532	1,645,009	10
14,342	**1,960**	**18,650,099**	**69,660**	**623,865**	**35,090,248**	**50,439,849**	**85,530,097**	
44	62	63,617	35	249	105,757	160,061	265,818	1
15	100	66,089	8	239	141,228	255,096	396,324	2
3,153	2	4,807,919	18,233	149,690	11,208,257	11,375,933	22,584,190	3
916	231	862,152	1,651	24,678	1,952,794	2,448,251	4,401,045	4
225	182	259,828	537	11,428	263,480	673,846	937,326	5
35	23	39,957	15	5,347	217,742	243,110	460,852	6
127	94	189,238	179	2,205	698,400	1,279,580	1,977,980	7
240	4	311,722	7,588	8,443	59,313	1,424,389	1,483,702	8
48	36	75,803	119	1,495	81,751	216,405	298,156	9
1,293	257	1,680,861	3,889	45,444	5,462,009	4,949,321	10,411,330	10
77	25	148,063	17	1,790	354,574	488,468	843,042	11
2,438	203	2,863,777	5,069	112,908	5,083,766	7,198,823	12,282,589	12
288	3	295,168	730	2,922	585,378	901,916	1,487,294	13
23	44	55,032	22	754	96,904	148,167	245,071	14
427	261	761,205	3,195	49,661	3,079,892	3,821,306	6,904,198	15
4,325	12	5,135,511	27,661	187,435	4,001,724	12,342,892	16,344,616	16
192	8	239,005	149	4,872	103,029	558,321	661,350	17
229	194	390,090	137	3,989	877	853,182	1,305,059	18
75	8	93,270	86	2,507	143,380	162,100	305,480	19
72	46	94,839	93	2,435	213,541	216,576	430,117	20
38	18	67,922	141	3,586	267,789	323,992	591,781	21
44	137	123,015	35	463	477,124	329,320	806,444	22
18	10	26,016	71	1,325	40,539	68,794	109,333	23
9,641	–	**13,628,262**	**4,786,900**	**2,280,405**	**31,365,636**	**112,326,819**	**143,692,455**	

Subsection 2.—Manufactures Classified by the Purpose of the Products.

Production of Manufactured Goods According to the Purpose Classification.—In addition to the classification according to the chief component material of the products, used by the industrial census in detailed presentation, a separate and distinct classification, based on the chief purpose of the products, was applied for the first time to the census returns of 1922 and is presented for the years 1922 to 1927 in summary form, and for 1928 in more detail, in Table 7.

During the period covered by the table, the gross production of the food industries dropped from 27·5 p.c. of the total of all industries in 1922 to 22·1 p.c. in 1928. On the other hand the gross production of the group ' vehicles and vessels", which includes automobiles, rose from 6·3 p.c. of the total for 1922 to 8·9 p.c. in 1928. Producers' materials also rose from 26 p.c. to 28·7 p.c. The percentage of the clothing industries remained about stationary, being 9·5 p.c. in 1928 as compared with 9·7 p.c. in 1922.

In analysing the relative standing of the two purpose groups which are perhaps of greatest interest, it is noted that the gross production of the food industries in 1928 was 22 p.c. of the output of Canadian manufacturing concerns, as compared with an output of 9·5 p.c. for the clothing industries. The greater production of the food group was in part due to the higher cost of raw materials, the value added by manufacturing being 12·5 p.c. of the total for all industries in the case of the food group and 9·9 p.c. for the clothing group. The clothing industries gave employment to approximately 14,000 more employees than the food industries.

7.—Principal Statistics of the Manufacturing Industries of Canada, Classified According to the Purpose of the Principal Product, by Main Groups for 1922-27[1] and in Detail for 1928.

(All establishments irrespective of the number of employees.)

Purpose Heading.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
1922.[1],[2]	No.	$	No.	$	$	$	$
Totals	**22,184**	**3,125,772,761**	**462,573**	**497,113,554**	**1,280,527,079**	**1,159,316,687**	**2,439,843,766**
Food	8,245	341,662,489	66,444	67,306,446	490,731,438	181,434,270	672,165,708
Drink and tobacco	496	104,047,461	13,402	13,777,986	33,027,203	66,502,616	99,529,819
Clothing	1,279	175,076,687	70,931	65,595,519	118,749,053	117,804,140	236,553,193
Personal utilities	936	56,060,262	16,904	17,080,049	21,879,031	35,379,445	57,258,476
House furnishings	600	75,168,053	18,032	19,861,883	24,956,960	38,004,090	62,961,050
Books and stationery	1,557	82,240,691	28,103	36,920,804	27,190,071	71,928,898	99,118,969
Vehicles and vessels	1,116	158,708,055	26,865	33,488,604	86,057,295	67,020,630	153,077,925
Producers' materials	5,285	1,011,268,819	135,845	139,533,410	316,400,400	319,818,227	636,218,627
Industrial equipment	2,640	1,116,579,810	85,178	102,487,465	158,571,274	259,472,307	418,043,581
Miscellaneous[2]	30	4,960,434	869	1,061,388	2,965,354	1,952,064	4,916,418
1923.[1]							
Totals	**22,642**	**3,380,322,950**	**525,267**	**571,470,028**	**1,470,140,139**	**1,311,025,375**	**2,781,165,514**
Food	8,227	345,764,285	77,293	69,336,584	495,485,972	182,097,169	677,583,141
Drink and tobacco	520	109,441,567	14,081	14,471,362	32,859,746	68,500,186	101,359,932
Clothing	2,032	191,932,116	83,124	76,858,924	131,566,228	137,373,130	268,939,358
Personal utilities	358	46,847,531	10,301	11,934,908	21,578,596	24,683,219	46,261,815
House furnishings	585	64,280,384	16,105	17,515,203	23,195,716	33,963,681	57,159,397
Books and stationery	1,536	91,136,337	29,071	38,739,470	29,761,991	73,093,813	102,855,804
Vehicles and vessels	1,040	214,335,369	37,748	50,041,177	140,518,004	86,573,861	227,091,8 5
Producers' materials	5,859	1,194,469,979	171,513	189,540,284	408,382,495	436,047,291	844,429,786
Industrial equipment	2,332	1,093,181,458	81,698	98,500,993	171,172,490	256,679,961	427,852,451
Miscellaneous	153	28,933,924	4,333	4,531,123	15,618,901	12,013,064	27,631,965

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[1] For details for the years 1922-1927 see previous editions of the Canada Year Book as follows:—1924, p. 393; 1925, p. 410; 1926, p. 396; 1927-28, p. 426; 1929, p. 423; 1930, p. 410.

[2] In the original compilation of manufacturing statistics for 1922 certain industries, notably ship-building, bridge-building, and some non-metallic mineral industries were excluded. Later these industries were included and the statistics by provinces and groups for 1922 appearing in Tables 1 and 2 were revised accordingly, but a similar revision has not been worked out for the purpose classification.

7.—Principal Statistics of the Manufacturing Industries of Canada, Classified According to the Purpose of the Principal Product, by Main Groups for 1922-27 and in Detail for 1928—continued.

(All establishments irrespective of the number of employees.)

Purpose Heading.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	$	No.	$	$	$	$
1924.[1]							
Totals	**22,178**	**3,538,813,460**	**508,503**	**559,884,045**	**1,438,409,681**	**1,256,643,901**	**2,695,053,582**
Food	8,036	364,420,646	74,721	73,119,482	515,708,299	187,005,602	702,713,901
Drink and tobacco	518	124,000,298	14,702	15,748,590	39,159,283	72,718,494	111,877,777
Clothing	1,956	197,041,969	81,729	75,380,919	130,130,048	130,813,958	260,944,006
Personal utilities	341	48,367,616	9,547	11,057,386	20,304,177	21,511,207	41,815,384
House furnishings	587	64,787,015	15,820	17,142,226	22,448,984	32,495,853	54,944,837
Books and stationery	1,690	100,017,954	29,486	40,212,100	32,360,935	74,911,094	107,272,029
Vehicles and vessels	980	205,551,891	34,149	44,977,607	117,515,075	77,888,209	195,403,284
Producers' materials	5,716	1,251,962,266	163,523	176,646,967	384,533,201	383,226,055	767,759,256
Industrial equipment	2,204	1,149,628,422	80,406	100,883,940	160,470,513	264,765,817	425,236,330
Miscellaneous	150	33,035,383	4,420	4,714,828	15,779,166	11,307,612	27,086,778
1925.[1]							
Totals	**22,331**	**3,808,309,981**	**544,225**	**596,015,171**	**1,587,665,408**	**1,360,879,907**	**2,948,545,315**
Food	8,264	373,825,362	84,596	74,946,850	579,235,628	194,189,294	773,424,922
Drink and tobacco	543	132,329,719	14,985	16,184,956	45,204,177	72,247,726	117,451,903
Clothing	1,820	203,546,060	84,197	77,458,211	141,218,864	134,493,045	275,711,909
Personal utilities	369	48,340,883	9,675	11,370,442	21,861,904	22,187,650	44,049,554
House furnishings	548	63,734,869	15,468	16,475,111	24,101,107	33,036,414	57,137,521
Books and stationery	1,644	103,942,573	30,499	40,928,979	33,184,517	76,681,341	109,865,858
Vehicles and vessels	944	260,962,556	46,700	61,847,302	139,327,253	103,706,994	243,034,247
Producers' materials	5,723	1,349,435,816	170,860	187,777,736	418,569,586	435,004.736	853,574,322
Industrial equipment	2,319	1,242,146,247	82,955	104,411,931	170,162,687	277,016,343	447,179,030
Miscellaneous	157	30,045,896	4,290	4,613,653	14,799,685	12,316,364	27,116,049
1926.[1]							
Totals	**22,708**	**3,981,569,590**	**581,539**	**653,850,933**	**1,755,158,399**	**1,492,645,039**	**3,247,803,438**
Food	8,259	394,159,943	87,343	78,143,619	581,403,701	201,819,393	783,223,094
Drink and tobacco	574	137,139,189	15,341	16,817,622	45,115,122	85,780,145	130,895,267
Clothing	1,878	211,149,085	91,215	85,361,018	158,935,630	147,616,042	306,551,672
Personal utilities	384	50,497,988	10,633	12,470,247	24,236,592	25.487,509	49,724,101
House furnishings	543	60,277,954	15,684	16,858,549	22,673,689	32,679,963	55,353,652
Books and stationery	1,716	108,582,186	31.500	43,781,918	34,575,475	81,543,751	116,119,226
Vehicles and vessels	917	271,239,055	50.731	70,315,573	178.558.815	119,505.351	298,064,166
Producers' materials	5,807	1,401,509,475	182,599	206,672.939	453,319,993	482,446.753	935,766,746
Industrial equipment	2,457	1,313,175,892	91,956	118,162,492	240,231,533	302.683,501	542,915,034
Miscellaneous	173	30,838,823	4,537	5,266,956	16,107,849	13,082,631	29,190,480
1927.[1]							
Totals	**22,936**	**4,337,631,558**	**618,933**	**693,932,228**	**1,789,574,604**	**1,635,923,936**	**3,425,498,540**
Food	8,306	418,151,619	88,967	81,722,970	586,128,295	216,875,935	803,004,230
Drink and tobacco	570	160,100,581	16,276	18,312,164	52,850,437	106,706,731	159,557,168
Clothing	1,988	227,438,240	97,918	91,236,118	161,946,983	166,769,340	328,716,323
Personal utilities	391	54,029,497	10,754	12,758,956	26,061,404	27,133,729	53,195,133
House furnishings	553	63,578,269	17,438	19,151,982	26,474,235	36,313,804	68,788,039
Books and stationery	1,795	120,028,624	33,732	46,913,071	38,755,189	90,338,506	129,093,695
Vehicles and vessels	872	279,080,400	49,885	70,622,546	174,846,848	124,565,024	299,411,872
Producers' materials	5,762	1,521,762,956	200,335	219,116,312	450,761,472	519,850,940	970,612,412
Industrial equipment	2,533	1,460,936,792	99,200	129,147,304	255,618,597	333,530,379	589,148,976
Miscellaneous	166	32,524,580	4,428	4,950,805	16,131,144	13,839,548	29,970,692
1928.							
Totals	**23,379**	**4,780,296,049**	**658,023**	**755,199,372**	**1,959,804,339**	**1,819,046,025**	**3,769,850,364**
Food	**8,212**	**440,873,879**	**90,373**	**84,096,261**	**605,692,720**	**226,907,992**	**832,600,712**
Breadstuffs	4,116	169,943,075	35,949	37,872,600	236,134,236	100,418,087	336,552,323
Fish	713	26,941,283	15,434	5,261,096	20,578,767	15,688,965	36,267,732
Fruits and vegetables	284	38,829.284	8.945	4.852 350	22,993.709	16,453.537	39,447,246
Meats	107	69,419,102	11,513	14,571,382	143,736,132	32,455,211	176,191.343
Milk products	2,833	53,552,319	12,257	12,809.102	109,589.676	34,783,938	144,373,614
Oils and fats	6	850,226	119	146.789	335,088	267,190	602,278
Sugar industries	20	49,218,388	2,471	3,782,703	41,522,123	11,814,669	53,336,792
Infusions	61	14,599,825	1,668	2,291,043	21,257,199	5.944.093	27,201.292
Miscellaneous	72	19,520,377	2,017	2,509,196	9,545,790	9,082,302	18,628,092
Drink and Tobacco	**596**	**183,028,239**	**17,806**	**20,492,585**	**62,541,589**	**127,972,285**	**190,513,874**
Beverages, alcoholic	96	118,435,789	6,887	9,641,220	30,874,600	68,459,541	99,334,141
Beverages, non-alcoholic	385	17,356,506	2,255	2,765,164	6.912,322	7,440,054	14,352,376
Tobacco	115	47,235,944	8,644	8,086,201	24,754,667	52,072,690	76,827,357

For footnotes see opposite page.

7.—Principal Statistics of the Manufacturing Industries of Canada, Classified According to the Purpose of the Principal Products, by Main Groups for 1922-27 and in Detail for 1928—concluded.

(All establishments irrespective of the number of employees.)

Purpose Heading.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	$	No.	$	$	$	$
Clothing	**2,062**	**242,010,963**	**104,008**	**98,069,749**	**179,344,512**	**180,265,193**	**359,609,705**
Boots and shoes	210	47,669,216	23,524	22,327,639	36,318,680	44,447,324	80,766,014
Fur goods	237	14,934,287	3,810	4,692,505	14,127,017	9,150,348	23,277,365
Garments and personal furnishings	837	78,803,518	39,557	38,166,601	80,177,513	66,187,666	146,365,179
Gloves and mitts	49	3,845,708	1,721	1,459,668	3,150,901	2,218,055	5,368,956
Hats and caps	166	8,427,970	5,064	4,984,799	8,431,283	8,938,234	17,369,517
Knitted goods	165	60,399,926	17,974	15,056,696	31,251,936	27,299,822	58,551,758
Waterproofs	18	1,238,488	359	426,614	826,524	897,870	1,724,394
Miscellaneous textiles, n.e.s.	380	26,691,850	11,999	10,955,227	5,060,648	21,125,874	26,186,522
Personal Utilities	**390**	**54,569,674**	**11,294**	**12,990,442**	**26,245,820**	**30,281,615**	**56,527,435**
Jewellery and time-pieces	112	11,313,218	3,041	3,984,661	4,791,494	7,209,310	12,000,804
Recreational supplies	74	16,126,621	3,608	4,097,046	6,175,836	8,533,893	14,709,729
Personal utilities, n.e.s.	204	27,129,835	4,645	4,908,735	15,278,490	14,538,412	29,816,902
House Furnishings	**598**	**72,394,155**	**19,807**	**21,811,858**	**31,753,455**	**41,597,051**	**73,350,506**
Books and Stationery	**1,893**	**131,944,080**	**36,156**	**51,902,487**	**43,090,386**	**100,848,835**	**143,939,221**
Vehicles and Vessels	**859**	**296,174,301**	**58,022**	**85,268,214**	**200,180,697**	**136,215,594**	**336,396,291**
Producers' Materials	**6,001**	**1,729,056,251**	**210,235**	**235,816,963**	**504,241,541**	**576,706,854**	**1,080,948,395**
Farm materials	12	2,131,905	251	281,109	1,446,800	743,186	2,189,986
Manufacturers' materials	993	1,292,250,991	118,496	147,785,089	322,817,448	395,073,905	717,891,353
Building materials	4,389	350,026,208	72,553	68,918,379	144,062,627	141,064,410	285,127,037
General materials	607	84,647,147	18,935	18,832,386	35,914,666	39,825,353	75,740,019
Industrial Equipment	**2,601**	**1,595,482,231**	**105,647**	**139,693,545**	**280,923,071**	**383,193,287**	**664,116,358**
Farming equipment	70	91,200,784	10,883	13,626,869	17,661,826	23,628,839	41,290,665
Manufacturing equipment	176	70,745,425	11,422	15,451,369	19,271,401	33,041,069	52,312,470
Trading equipment	77	6,710,057	867	1,119,804	679,268	2,628,863	3,308,131
Service equipment	236	39,331,110	4,878	5,989,174	10,913,832	18,294,723	29,208,555
Light, heat and power equipment	1,301	1,204,749,068	44,293	2,089,359	149,013,888	214,328,917	363,342,805
General equipment	741	182,745,787	33,304	41,416,970	83,382,856	91,270,876	174,653,732
Miscellaneous	**167**	**34,762,276**	**4,675**	**5,057,268**	**16,790,548**	**15,057,319**	**31,847,867**

Subsection 3.—Manufactures Classified by Origin of the Materials.

Classification of Manufacturing Production According to the Origin of the Materials Worked Upon.—The principal statistics of the manufactures of Canada, classified upon the basis of "origin", are presented in Table **8** for the years 1926 to 1928. By this means Canadian manufacturing production may be analysed from a new angle, one by means of which interesting comparisons may be made with the external trade classification according to origin.

The manufacturing statistics for 1924 were the first to be analysed upon the origin basis. While the period available for review only covers, therefore, the short space of the four years from 1924 to 1928, interesting changes have taken place in the relative importance of the industries based on materials from the different origins. Since the purpose of such a comparison is to discover the relative importance of the manufactures developed to work upon materials from the different origins, the figures of net value of products or the value added to the raw materials by the manufacturing processes will give a more accurate measure of the importance of the industrial groups than the figures of gross value of products. The values added by the manufacture of materials of farm origin, while increasing in amount, have dropped from 30·7 p.c. of the total for all industries in 1924 to 28·4 p.c. in 1928. Similarly, industries of the forest origin group have decreased from 23·8 p.c. in 1924 to 21·3 p.c. in 1928. The values added by industries of the mineral origin group on the other hand have increased from 27·9 p.c. of the total for all industries in 1924 to 34·1 p.c. in 1928. This rapid increase in the relative importance of the industries of the mineral group is probably due to a number of influences. The expansion of the motor vehicle industry, the rapid growth in the use of electrical equipment, increasing activity in construction which absorbs large quantities of steel, cement and various other manufactured mineral products, and the development of metallurgical plants in Canada are some factors in the growing importance of the mineral group of industries. Another factor in this trend is the growing appreciation and development of the wealth of the mineral resources of Canada. Not only do the various mining activities make the raw materials for mineral industries more readily available, but those activities also require large quantities of machinery, electrical apparatus and other finished products of mineral origin.

In the year 1928, the industries of the mineral group exceeded those of any other group in the net value of products with 34·1 p.c. of the total, as compared with 28·4 p.c. for the farm and 21·3 p.c. for the forest origin groups. These three principal groups stood in the same order of importance with regard to employees engaged and salaries and wages paid. In the matter of capital invested the mineral group also leads with 29·5 p.c. of the total, followed by the forest group with 24·2 p.c., central electric stations with 20·0 p.c., and the farm group with 19·9 p.c.

8.—Principal Statistics of the Manufacturing Industries of Canada, Classified According to the Origin of the Material Used, 1926-1928.[1]

(All establishments irrespective of the number of employees.)

Origin.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
1926.	No.	$	No.	$	$	$	$
Totals	**22,708**	**3,981,569,590**	**581,539**	**653,850,933**	**1,755,158,399**	**1,492,645,039**	**3,247,803,438**
Farm origin—							
(a) From field crops	4,697	565,932,312	99,200	95,403,666	486,522,508	286,500,720	773,023,228
Canadian origin	4,434	323,033,863	56,017	54,719,806	299,452,868	187,256,154	486,709,022
Foreign origin	263	242,898,449	43,183	40,683,860	187,069,640	99,244,566	286,314,206
(b) From animal husbandry	4,149	258,779,323	68,362	71,675,146	334,243,258	138,517,721	475,760,979
Canadian origin	4,137	248,759,804	65,939	69,690,146	333,770,293	133,483,533	467,253,826
Foreign origin	12	10,019,519	2,423	1,985,000	3,472,965	5,034,188	8,507,153
(c) **Totals, Farm Origin**	**8,846**	**824,711,635**	**167,562**	**167,078,812**	**823,765,766**	**425,018,441**	**1,248,784,207**
Canadian origin	8,571	571,793,667	121,956	124,409,952	633,223,161	320,739,687	953,962,848
Foreign origin	275	252,917,968	45,606	42,668,860	190,542,605	104,278,754	294,821,359
Wild life origin	232	13,321,668	3,662	4,328,731	12,459,350	9,316,338	21,775,688
Marine origin	831	28,868,071	17,408	5,622,837	22,034,129	14,156,635	36,190,764
Forest origin	6,710	926,726,166	133,428	159,969,652	260,039,864	337,511,793	597,551,657
Mineral origin	3,284	1,200,704,022	173,515	226,802,705	489,898,292	492,204,727	982,103,019
Mixed origin	1,748	231,017,962	72,558	70,105,196	120,426,791	125,503,372	245,930,163
Central electric stations	1,057	756,220,066	13,406	19,943,000	26,534,207	88,933,733	115,467,940

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[1] Corresponding figures for 1924 and 1925 will be found in the 1930 Year Book, p. 412.

8.—Principal Statistics of the Manufacturing Industries of Canada, Classified According to the Origin of the Material used, 1926-1928—concluded.

(All establishments irrespective of the number of employees.)

Origin.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
1927.	No.	$	No.	$	$	$	$
Totals	**22,936**	**4,337,631,558**	**618,933**	**693,932,228**	**1,789,574,604**	**1,635,923,936**	**3,425,498,549**
Farm origin—							
(a) From field crops	4,977	613,855,706	104,850	103,990,849	495,122,606	332,027,953	827,150,559
Canadian origin	4,683	358,813,700	58,484	58,483,142	312,675,963	215,539,287	528,215,250
Foreign origin	294	255,042,006	46,366	45,507,707	182,446,643	116,488,666	298,935,309
(b) From animal husbandry	4,007	283,449,879	70,131	73,587,671	336,059,831	151,765,691	487,825,522
Canadian origin	3,993	261,122,061	67,241	71,247,700	332,043,200	146,211,405	478,254,605
Foreign origin	14	22,327,818	2,890	2,339,971	4,016,631	5,554,286	9,570,917
(c) **Totals, Farm Origin**	**8,984**	**897,305,585**	**174,981**	**177,578,520**	**831,182,437**	**483,793,644**	**1,314,976,081**
Canadian origin	8,676	619,935,761	125,725	129,730,842	644,719,163	361,750,692	1,006,469,855
Foreign origin	308	277,369,824	49,256	47,847,678	186,463,274	122,042,737	308,506,011
Wild life origin	244	14,489,527	3,880	4,588,689	13,462,752	9,413,528	22,876,280
Marine origin	773	24,454,482	16,697	5,373,951	18,364,846	12,719,763	31,084,609
Forest origin	6,770	1,020,144,236	149,738	166,921,448	270,764,265	355,741,746	626,506,011
Mineral origin	3,232	1,268,521,442	180,365	239,692,970	497,368,048	528,034,653	1,025,402,701
Mixed origin	1,836	245,891,001	78,564	76,830,335	127,646,986	142,187,305	269,834,291
Central electric stations	1,097	866,825,285	14,708	22,946,315	30,785,270	104,033,297	134,818,567
1928.							
Totals	**23,379**	**4,780,296,049**	**658,023**	**755,199,372**	**1,950,804,339**	**1,819,046,025**	**3,769,850,364**
Farm origin—							
(a) From field crops	5,035	654,648,894	110,502	110,960,496	513,481,501	363,530,939	877,012,440
Canadian origin	4,740	398,072,152	62,843	63,285,079	331,757,735	247,558,176	579,315,911
Foreign origin	295	256,576,742	47,659	47,675,417	181,723,766	115,972,763	297,696,529
(b) From animal husbandry	3,946	296,631,572	72,592	76,208,206	365,750,609	153,788,029	519,538,638
Canadian origin	3,930	270,471,869	68,659	72,766,657	361,111,892	147,529,473	508,641,365
Foreign origin	16	26,159,703	3,933	3,441,549	4,638,717	6,258,556	10,897,273
(c) **Totals, Farm Origin**	**8,981**	**951,280,466**	**183,094**	**187,168,702**	**879,232,110**	**517,318,968**	**1,396,551,078**
Canadian origin	8,670	668,544,021	131,502	136,051,736	692,869,627	395,087,649	1,087,957,276
Foreign origin	311	282,736,445	51,592	51,116,966	186,362,483	122,231,319	308,593,802
Wild life origin	237	14,934,287	3,810	4,692,505	14,127,017	9,150,348	23,277,365
Marine origin	713	26,941,283	15,434	5,261,096	20,578,767	15,688,965	36,267,732
Forest origin	7,241	1,155,561,945	157,153	178,151,066	292,149,341	387,224,205	679,373,546
Mineral origin	3,256	1,411,098,815	198,676	272,345,046	574,473,014	620,502,715	1,194,975,729
Mixed origin	1,902	263,559,650	84,001	83,493,537	138,878,454	156,834,005	295,712,459
Central electric stations	1,049	956,919,603	15,855	24,087,420	31,365,636	112,326,819	143,692,455

Subsection 4.—The Forty Leading Manufacturing Industries.

The Forty Leading Industries in 1928.—All of the ten foremost industries of Canada expanded their production during the year 1928 as compared with the previous year. The pulp and paper industry again exceeded all others in gross value of products. Indeed there was very little change in the order of the ten leading industries when compared on this basis with 1927. The automobile industry rose from sixth to fourth place, the expansion of $34,000,000 in the gross value of its products being partly due to the fact that production was abnormally low in the previous year, as production was largely suspended in one of the principal plants in Canada, pending a change of models. Petroleum products moved up from fifteenth place in 1927 to eleventh in 1928. The gross value of the products of the sugar refining industry were over $8,000,000 less in 1928 than 1927, but this was the only important industry to show an appreciable decline.

The net values of products provide a better measure of an industry's contribution to the national income than gross values do. On the basis of net value, or value added by manufacture, the order of importance of the industries in 1928 was very different from that based on gross value. The pulp and paper industry was foremost in this respect also, but it was followed by central electric stations, non-ferrous metal smelting, sawmills, electrical apparatus, printing and publishing, rubber goods, castings and forgings, automobiles, cigars and cigarettes, and breweries.

The central electric station industry represented the greatest investment of capital, while next in order were pulp and paper, sawmills, non-ferrous metal smelting, and iron blast furnaces and steel mills.

As a measure of the employment provided by an industry the salaries and wages paid are probably a better guide than the number of employees reported, especially in industries where operations are seasonal. In the amount of salaries and wages paid the pulp and paper industry came first, being followed by sawmills, railway rolling stock, automobiles, castings and forgings, central electric stations, printing and publishing, electrical apparatus, rubber goods, and cotton yarn and cloth.

9.—Principal Statistics of Forty Leading Industries, 1928.

Industry.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Values of Products.	
						Net.	Gross.
	No.	$	No.	$	$	$	$
Pulp and paper	110	685,687,459	33,614	47,322,648	88,490,421	144,586,815	233,077,236
Flour and grist mills	1,319	63,514,575	6,556	7,606,674	165,032,821	30,665,303	195,698,124
Slaughtering and meat-packing	75	66,198,507	11,244	14,242,362	142,396,342	31,700,077	174,096,419
Automobiles	14	97,056,328	16,749	29,548,114	114,892,190	47,975,305	162,867,495
Central electric stations	1,049	956,919,603	15,855	24,087,420	31,365,636	112,326,819	143,692,455
Sawmills	2,967	175,729,448	44,862	34,721,520	80,451,801	58,972,953	139,424,754
Butter and cheese	2,804	45,129,830	11,411	11,755,547	99,202,776	31,009,532	130,212,308
Rubber goods, including footwear	45	70,459,066	17,095	18,943,730	45,118,570	52,090,143	97,208,713
Non-ferrous metal smelting	10	120,035,742	7,526	12,228,738	33,260,225	61,081,477	94,341,702
Electrical apparatus	137	87,952,674	18,193	22,756,209	38,784,421	54,888,031	93,672,452
Petroleum products	25	56,531,614	4,319	6,922,580	57,383,841	25,738,331	83,122,172
Castings and forgings	327	95,326,911	20,782	26,759,016	31,530,148	50,374,704	81,904,852
Cotton yarn and cloth	38	90,960,011	21,615	17,688,791	44,704,779	34,514,803	79,219,582
Railway rolling stock	35	89,053,842	22,417	32,452,781	38,110,053	35,312,004	73,422,057
Bread and bakery products	2,482	44,377,449	15,422	16,901,238	36,151,747	35,075,350	71,227,097
Printing and publishing	753	60,822,600	16,113	24,243,906	15,696,759	52,183,047	67,879,806
Clothing, women's factory	444	25,557,610	16,351	16,685,894	36,233,645	27,092,856	63,326,501
Steel and rolled products, pig iron, etc	40	114,292,363	9,057	15,470,836	27,164,463	34,907,211	62,071,674
Cigars and cigarettes	79	37,243,547	6,644	6,197,918	18,469,843	42,607,889	61,077,732
Breweries	78	67,148,686	5,003	7,080,761	20,737,486	40,172,912	60,910,398
Biscuits, confectionery, chewing gum, etc	283	52,353,082	13,274	12,534,629	28,480,230	31,923,993	60,404,223
Hosiery, knit goods and gloves	165	60,399,926	17,974	15,056,696	31,251,936	27,299,822	58,551,758
Planing mills, etc	788	53,431,576	12,131	13,330,829	30,021,888	22,678,427	52,700,315
Sugar refineries	8	48,625,818	2,381	3,671,086	40,551,874	11,533,281	52,085,155
Machinery	161	69,404,536	10,855	14,938,096	18,976,526	32,069,614	51,046,140
Boots and shoes, leather	199	31,433,028	15,505	14,982,608	26,383,043	23,635,759	50,018,802
Sheet metal products	145	45,346,299	8,732	10,636,976	24,660,978	25,185,693	49,846,671
Clothing, men's factory	218	27,263,996	11,879	13,085,548	24,567,328	23,909,850	48,477,178
Acids, alkalies, salts and compressed gases	41	44,250,661	2,943	4,143,302	23,404,991	18,931,855	42,336,846
Furniture and upholstering	366	39,829,474	12,539	13,689,344	16,312,469	25,513,065	41,825,534

9.—Principal Statistics of Forty Leading Industries, 1928—concluded.

Industry.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Values of Products.	
						Net.	Gross.
	No.	$	No.	$	$	$	$
Agricultural implements	66	91,142,820	10,867	13,599,953	17,607,861	23,591,980	41,199,841
Printing and bookbinding	912	38,755,308	11,794	15,692,133	13,321,821	27,696,645	41,018,466
Distilleries	18	51,287,103	1,884	2,560,459	10,137,114	28,286,629	38,423,743
Fish-curing and packing	713	26,941,283	15,434	5,261,096	20,578,767	15,688,965	36,267,732
Leather tanneries	91	31,259,692	3,952	4,486,828	26,253,779	8,948,301	35,202,080
Coke and gas products	45	92,145,190	3,914	5,608,779	17,164,246	17,544,201	34,708,447
Furnishing goods, men's	159	21,064,504	9,909	7,270,875	17,321,124	12,993,428	30,314,552
Brass and copper products	97	23,576,863	5,437	6,797,416	15,716,748	12,740,682	28,457,430
Paints and varnishes	68	24,256,008	2,881	3,967,295	14,489,934	13,378,112	27,868,046
Coffee, spices, etc	61	14,599,825	1,668	2,291,043	21,257,199	5,944,093	27,201,292
Totals, Forty Leading Industries	**17,435**	**3,937,364,857**	**496,781**	**577,221,674**	**1,603,637,823**	**1,412,769,957**	**3,016,407,780**
Grand Totals, All Industries	**23,379**	**4,780,296,049**	**658,023**	**755,199,372**	**1,950,804,339**	**1,819,046,025**	**3,769,850,364**
Percentages of forty leading industries to all industries	74·57	82·36	75·48	76·43	82·20	77·67	80·00

The Forty Leading Industries in 1929.—The early completion of part of the compilation of the Census of Manufactures for 1929 permits the inclusion, before going to press, of Table (**9A**) of the forty leading industries in that year. It will be noticed that, compared with 1928, there has been a change in the order of the ten leading industries when arranged according to gross production. In 1929, pulp and paper was again in the lead with an appreciable increase in production but slaughtering and meatpacking was in second place with a gross production of nearly $186,000,000. The flour and grist mills, and butter and cheese industries both suffered reductions as regards gross values of production. Automobiles held its previous position, *viz.,* fourth, but with a substantially increased production. Without doubt the most important change has been in connection with the railway rolling-stock industry, which has risen from thirteenth place in 1928 to eighth place in 1929, and shows an increase in the value of gross production of from $73,000,000 to $126,000,000 or nearly 73 p.c. Rubber goods and footwear shows only a slight decline in production, but in 1929 ranked twelfth in importance in place of eighth, as in 1928. Machinery is an industry which shows a more than proportionate advance. In 1928 this industry ranked twenty-fifth with a gross production of $51,000,000; in 1929 the value of the gross production had risen to $66,000,000 and the industry occupied the nineteenth place.

The net value of products provides a better measure of an industry's contribution to the national income than gross values do. On the basis of net value, or value added by manufacture, the order of importance of the industries in 1929 was very different from that based on gross values. The pulp and paper industry was foremost in this respect, also, but it was followed by central electric stations, non-ferrous metal smelting, electrical apparatus, sawmills, printing and publishing, automobiles, castings and forgings, rubber goods, railway rolling stock, cigars and cigarettes, and machinery in the order given.

9A.—Principal Statistics of Forty Leading Industries, 1929.

Industry.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Values of Products.	
						Net.	Gross.
	No.	$	No.	$	$	$	$
Pulp and paper	108	644,773,806	33,584	50,214,445	96,874,749	147,096,012	243,970,761
Slaughtering and meat-packing	74	67,777,803	10,762	13,998,716	151,814,517	34,028,385	185,842,902
Flour and grist mill products	1,325	67,773,534	6,618	7,578,276	150,806,665	30,342,024	181,148,689
Automobiles	17	98,378,301	16,435	26,864,808	120,332,694	56,982,899	177,315,593
Central electric stations	1,024	1,055,731,532	16,164	24,831,821	34,615,939	122,883,446	157,499,385
Sawmills	3,161	181,586,699	46,466	36,157,555	83,743,952	63,245,612	146,989,564
Butter and cheese	2,767	47,907,462	11,872	12,709,426	93,861,458	32,841,737	126,703,195
Railway rolling stock	35	94,415,563	25,488	38,311,179	74,156,037	52,331,000	126,487,037
Electrical apparatus and supplies	139	101,767,108	20,871	26,725,215	49,623,322	64,172,680	113,796,002
Non-ferrous metal smelting	10	146,699,085	8,119	13,772,393	41,416,446	68,438,022	109,854,468
Petroleum products	25	71,260,459	4,978	8,153,625	76,861,939	22,546,375	99,408,314
Rubber goods, including footwear	44	73,877,478	17,796	20,134,501	42,940,747	53,993,913	96,934,660
Castings and forgings	336	102,900,796	23,443	30,854,654	35,994,441	55,580,705	91,575,146
Cotton yarn and cloth	36	95,542,319	20,221	16,671,787	43,133,575	35,108,190	78,241,765
Bread and other bakery products	2,568	48,969,603	17,023	18,481,612	38,507,559	38,706,907	77,214,466
Printing and publishing.	767	65,736,238	16,960	26,407,204	16,424,412	57,248,926	73,673,338
Steel and rolled products, pig iron, ferro-alloys, etc	45	109,446,529	11,218	18,534,681	32,514,596	39,717,399	72,231,995
Clothing, women's factory	461	25,087,862	17,024	17,128,421	34,558,860	31,787,557	66,346,417
Machinery	169	75,226,204	12,435	17,091,918	22,264,416	43,428,123	65,692,539
Cigars and cigarettes	72	34,025,963	6,382	5,735,252	17,012,776	47,318,724	64,331,500
Biscuits and confectionery	281	55,320,902	13,073	12,765,876	27,717,889	34,774,912	62,492,801
Breweries	78	70,390,147	4,839	7,134,256	19,135,208	43,125,713	62,260,921
Hosiery, knitted goods and gloves	168	66,489,608	19,609	16,294,536	31,193,505	29,904,247	61,097,752
Planing mills, sash and door factories	744	58,429,538	13,132	14,966,072	31,679,455	24,912,633	56,592,088
Sheet metal products	152	49,080,661	9,286	11,228,170	28,076,595	25,075,103	53,151,698
Clothing, men's factory	205	28,493,549	11,506	13,371,417	25,653,973	24,926,195	50,580,168
Boots and shoes, leather	191	31,028,229	15,563	15,031,101	25,510,731	23,116,859	48,627,590
Sugar refineries	8	43,534,113	2,325	3,686,037	35,640,124	11,511,836	47,151,960
Furniture and upholstering	367	41,851,682	13,082	14,512,073	17,735,090	26,401,086	44,136,176
Distilleries	20	60,211,220	2,219	3,132,497	12,928,920	30,823,500	43,752,420
Printing and bookbinding	910	43,506,712	12,378	16,695,127	13,761,259	29,987,456	43,748,715
Agricultural implements	62	103,356,773	11,408	14,775,889	19,016,981	21,642,498	40,659,479
Coke and gas products.	43	94,749,062	3,902	5,938,814	18,517,214	21,393,229	39,910,443
Brass and copper products	102	27,431,520	6,232	7,800,591	21,118,038	14,997,543	36,115,581
Fish curing and packing	730	28,664,442	16,367	5,411,855	21,496,859	13,469,401	34,966,260
Bridgebuilding	10	28,895,206	4,977	8,937,427	14,557,679	19,621,809	34,179,488
Automobile supplies	65	19,401,890	4,708	6,711,434	19,045,836	12,919,242	31,965,078
Furnishing goods, men's	162	19,654,505	9,890	7,320,145	17,848,021	12,733,841	30,581,862
Acids, alkalies and salts	15	49,417,431	2,897	4,338,686	6,301,121	21,720,851	28,021,972
Coffee and spices	59	15,402,253	1,701	2,305,912	21,025,868	6,945,922	27,971,790
Totals, Forty Leading Industries	**17,555**	**4,144,173,787**	**522,953**	**622,715,404**	**1,685,419,466**	**1,547,802,512**	**3,233,221,978**
Grand Totals, All Industries	**23,597**	**5,083,014,754**	**693,816**	**813,049,842**	**2,066,636,914**	**1,997,350,365**	**4,063,987,279**
Percentages of forty leading industries to all industries	74·40	81·53	75·37	76·71	81·55	77·49	79·56

The central electric station industry represented the greatest investment of capital, while next in order were pulp and paper, sawmills, non-ferrous metal smelting and iron blast furnaces and steel mills.

As a measure of the employment provided by an industry the salaries and wages paid are probably a better guide than the number of employees reported, especially in industries where operations are seasonal. In the amount of salaries and wages paid the pulp and paper industry came first, being followed by railway rolling stock, sawmills, castings and forgings, automobiles, electrical apparatus and supplies, printing and publishing, and central electric stations, all of which industries paid out, in salaries and wages, amounts in excess of $20,000,000 during the year.

Section 3.—Provincial Distribution of Manufacturing Production.

Ontario and Quebec are the most important manufacturing provinces of Canada. Their combined production in 1928 amounted to $3,022,886,410, or over 80 p.c. of the gross value of manufactured products of the Dominion. Of this amount, Ontario contributed $1,949,724,119 and Quebec $1,073,162,291. The proximity of Ontario to the coal fields of Pennsylvania, the water-power resources of the two provinces and their nearness to the larger markets of Canada and the United States have all contributed to the above result. British Columbia had, in 1928, the third largest gross manufacturing production, $270,851,669, and Manitoba the fourth, $159,435,094. Alberta, Nova Scotia and New Brunswick followed with $100,744,401, $84,948,608 and $67,413,742 respectively, succeeded by Saskatchewan with a production of $59,125,280 and Prince Edward Island with $4,445,160.

Subsection 1.—The Manufactures of the Maritime Provinces, 1928.

Table **10** contains statistics of the ten leading industries of each of the Maritime Provinces for the year 1928. In Prince Edward Island the manufacture of butter and cheese, with a gross production in 1928 of $1,247,128, was the leading industry, followed by fish-curing and -packing, with a gross production of $756,210. Manufacturing in Nova Scotia and New Brunswick is, of course, to a considerable extent dominated by the steel industry in the former and the forest industries in the latter, although there is a large sugar refinery in each province. Fish-curing and -preserving, the manufacture of biscuits and confectionery, electric light and power production, and butter and cheese making are also of considerable relative importance. The sawmilling industry of New Brunswick, with a gross value of products in 1928 of $9,709,633 or over 14 p.c. of the total manufacturing production of the province, provided almost 7 p.c. of the total of the gross production of the industry throughout the Dominion.

10.—Statistics of Ten Leading Industries of each of the Maritime Provinces, 1928.

Note.—Other leading industries, statistics of which cannot be given because there are fewer than three establishments in each industry, are:—in Prince Edward Island, tobacco and cigars, coffins and caskets, slaughtering and meat-packing and railway rolling stock; in Nova Scotia, petroleum, sugar refineries, coke and gas and wire products; in New Brunswick, sugar refineries and railway rolling stock. The statistics for these industries are included in the grand totals.

PRINCE EDWARD ISLAND.

Industry.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Butter and cheese	38	265,839	109	73,199	1,026,607	1,247,128
Fish-curing and -packing	108	190,290	1,211	83,853	526,469	756,210
Castings and forgings	3	331,136	73	54,768	69,965	199,122
Printing and publishing	4	167,197	96	94,272	31,184	194,796
Central electric stations	12	700,185	39	46,341	481	190,478
Flour and feed mills	16	75,447	17	7,910	137,668	177,344
Bread and bakery products	8	69,787	33	24,576	82,247	156,183
Sawmills	48	135,150	73	16,225	80,983	131,910
Planing mills, etc	4	189,270	40	35,455	34,975	91,987
Starch and glucose	4	38,384	50	11,842	50,539	91,596
Totals, Ten Leading Industries	**245**	**2,162,685**	**1,741**	**428,441**	**2,041,118**	**3,236,754**
Grand Totals, All Industries	**277**	**3,121,568**	**2,035**	**712,945**	**2,747,292**	**4,445,160**

NOVA SCOTIA.

Industry.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
Rolled iron, steel products, pig iron and ferro-alloys	6	29,978,715	2,121	3,263,144	7,067,650	15,625,206
Fish-curing and -packing	219	3,724,210	3,738	1,201,169	5,069,031	7,930,900
Sawmills	352	3,915,452	2,338	658,020	2,017,463	3,441,448
Biscuits, confectionery, cocoa and chocolate	11	4,437,146	1,270	1,094,236	1,620,205	3,439,530
Central electric stations	78	14,130,973	561	665,981	652,960	3,280,348
Butter and cheese	30	1,078,113	274	295,992	2,074,759	2,881,043
Hosiery and knitted goods	4	3,606,214	578	461,209	1,254,796	2,248,578
Shipbuilding and repairs	13	10,999,345	728	726,772	458,188	1,972,433
Printing and publishing	31	2,033,158	643	786,835	404,390	1,923,854
Castings and forgings	15	2,180,896	491	560,293	463,605	1,724,064
Totals, Ten Leading Industries	**759**	**76,084,222**	**12,742**	**9,713,651**	**21,083,047**	**44,467,404**
Grand Totals, All Industries	**1,167**	**138,809,331**	**19,222**	**15,838,394**	**44,168,441**	**84,948,608**

10.—Statistics of Ten Leading Industries of each of the Maritime Provinces, 1928.— concluded.

NEW BRUNSWICK.

Industry.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Sawmills	180	22,463,064	4,194	2,298,685	6,450,036	9,709,633
Pulp and paper	4	25,029,910	1,329	1,622,277	3,847,154	8,225,586
Cotton yarn and cloth	4	5,579,783	1,731	1,322,025	2,260,268	3,972,466
Biscuits, confectionery, cocoa and chocolate	8	2,209,423	714	558,813	1,500,368	2,901,756
Coffee and spices	5	1,819,246	140	164,628	2,512,073	2,883,800
Fish-curing and -packing	152	1,622,762	2,035	347,563	1,595,688	2,552,991
Planing mills, sash, doors, etc.	27	1,769,497	660	564,256	1,561,390	2,498,353
Central electric stations	44	22,181,342	302	349,282	489,014	2,389,616
Slaughtering and meat-packing	9	1,060,650	195	257,176	1,861,510	2,335,973
Butter and cheese	38	917,053	200	197,040	1,258,961	1,859,635
Totals, Ten Leading Industries	**471**	**84,652,730**	**11,500**	**7,681,745**	**23,336,462**	**39,329,809**
Grand Totals, All Industries	**794**	**114,660,886**	**17,963**	**14,682,510**	**39,750,561**	**67,413,742**

Subsection 2.—The Manufactures of Quebec, 1928.

The pulp and paper mills of Quebec, the most important manufacturing unit in the province, produced goods to the gross value of $127,223,217 in the calendar year 1928. This amount exceeded by nearly $71,000,000 the gross value of the products of the cotton yarn and cloth mills ($56,545,069), which in their turn showed an excess of value of products of over $3,000,000 when compared with establishments engaged in the manufacture of cigars and cigarettes ($53,324,554). These three industries were followed in order of gross value of products by the generation of electric light and power, the manufacture of railway rolling stock, the making of butter and cheese, of men's clothing, and of leather boots and shoes.

The importance of the pulp and paper industry in Quebec is shown by a comparison with the industry throughout the Dominion. The Quebec industry, in addition to supplying nearly 12 p.c. of the total gross value of all products manufactured in the province, furnished nearly 55 p.c. of the products of pulp and paper mills throughout the country. The gross value of cotton yarn and cloth products from Quebec mills formed over 71 p.c., the gross value of cigars and cigarettes formed 87 p.c., the value of railway rolling stock 57 p.c., and the value of the boot and shoe products (the eighth industry in order of value of products) over 59 p.c. of the Dominion totals for these products. Thus Quebec is an outstanding manufacturing province rather on account of her great individual industries than because of the diversification of her industrial activities.

11.—Statistics of Forty Leading Industries of the Province of Quebec, 1928.

NOTE.—Leading industries having fewer than 3 establishments are sugar refineries, cement and bridge-building.

Industry.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Pulp and paper	50	376,351,076	17,743	24,578,601	48,262,196	127,223,217
Cotton yarn and cloth	17	63,828,483	14,435	11,645,259	32,251,365	56,545,069
Cigars and cigarettes	41	31,749,668	5,548	5,158,741	16,219,372	53,324,554
Central electric stations	148	371,750,195	3,912	5,437,762	6,859,708	43,032,444
Railway rolling stock	10	42,745,458	11,699	17,053,862	23,398,384	41,620,368
Butter and cheese	1,400	8,192,991	2,193	1,256,547	25,569,662	31,784,255
Clothing, men's factory	142	16,547,134	7,125	7,428,282	16,215,373	30,162,782
Boots and shoes, leather	117	18,416,466	9,611	9,178,711	15,617,786	29,630,773
Flour and feed mills	364	10,296,741	1,077	1,206,634	25,246,346	29,338,759
Clothing, women's factory	196	10,590,955	6,399	6,457,195	16,023,968	27,314,966
Sawmill products	1,041	37,688,780	9,974	4,946,130	18,158,418	27,173,297
Slaughtering and meat-packing	17	8,655,335	1,947	2,227,611	19,613,433	25,245,993
Non-ferrous metal smelting	3	34,046,722	1,796	2,545,817	6,894,559	21,963,876
Breweries	8	20,294,481	1,678	2,126,031	6,773,926	21,542,886
Electrical apparatus and supplies	17	24,220,711	5,921	7,356,905	9,337,957	20,792,119
Rubber goods, including footwear	12	11,451,850	5,362	4,625,139	6,811,318	20,267,854
Bread and bakery products	835	13,233,720	4,380	4,569,736	10,067,733	19,514,222
Castings and forgings	72	25,661,190	4,883	5,757,130	7,927,198	18,378,848
Machinery	29	23,580,667	4,133	5,568,666	7,575,335	17,248,748
Printing and publishing	62	15,279,128	4,107	5,603,582	3,943,967	16,049,026
Acids, alkalies, salts and compressed gases	9	15,198,453	939	1,203,318	9,928,989	15,939,731
Distilleries	7	16,121,529	623	846,562	3,371,496	15,268,267
Biscuits, confectionery, cocoa and chocolate	49	11,874,419	3,461	2,846,248	7,580,505	14,743,227
Petroleum products	5	12,475,081	905	1,396,765	10,338,794	14,690,859
Tobacco, chewing, smoking and snuff	29	9,473,098	1,788	1,708,784	5,241,147	14,455,623
Hosiery, knitted goods and fabric gloves	38	12,771,067	4,068	3,139,482	7,572,381	13,496,411
Planing-mill products	291	12,883,573	2,983	2,847,579	7,534,081	12,995,639
Furnishing goods, men's	73	7,972,722	4,682	2,858,425	6,976,779	11,937,022
Printing and bookbinding	253	9,631,889	3,260	4,121,060	3,368,217	10,522,303
Paints, pigments and varnishes	18	11,965,832	1,165	1,508,273	4,942,721	9,949,333
Sheet metal products	21	8,978,626	1,960	2,169,437	5,145,308	9,478,214
Shipbuilding and repairs	5	11,656,621	2,642	3,383,173	1,899,595	9,374,606
Fur goods	76	6,814,578	1,413	1,711,190	5,803,893	8,836,341
Explosives, ammunition, fireworks and matches	7	11,876,925	1,432	1,273,459	3,564,849	7,644,297
Steel and rolled products, pig iron and ferro-alloys	10	10,282,082	1,737	2,433,334	1,652,038	7,350,581
Hats and caps	65	3,090,621	2,182	2,089,082	3,518,764	7,295,971
Furniture and upholstered goods	70	5,074,433	2,295	2,378,857	2,610,688	7,097,878
Dyeing, cleaning and laundry work	77	7,371,339	3,126	2,815,806	1,042,195	6,860,587
Hardware and tools	26	11,193,486	1,499	1,577,854	1,932,932	6,434,681
Musical instruments	10	5,784,574	1,301	1,521,042	2,537,445	6.052,211
Totals, Forty Leading Industries	**5,720**	**1,367,072,699**	**167,384**	**178,558,071**	**419,330,821**	**888,577,838**
Grand Totals, All Industries	**7,231**	**1,583,350,884**	**204,959**	**217,887,481**	**510,580,872**	**1,073,162,291**
Percentages of forty industries to grand totals	79·10	86·34	81·67	81·95	82·13	82·80

Subsection 3.—The Manufactures of Ontario, 1928.

Ontario is the most important manufacturing province of the Dominion. The gross value of its manufactured products in 1928 represented nearly 52 p.c. of those of the whole Dominion, while those of Quebec, the second province in importance in this respect, amounted to about 28 p.c. This premier position in manufacturing has been fairly uniformly maintained by Ontario over a long period, as the following percentages show:—in 1926, 52 p.c.; 1920, 50 p.c.; 1918, 53 p.c.; 1910, 50 p.c.; 1900, 50 p.c.; 1890, 51 p.c. and

1880, 51 p.c. Thus, in spite of the rapid industrial development in recent years in other provinces such as Quebec, British Columbia and Manitoba, Ontario is maintaining a manufacturing production more than equal to that of the remainder of the Dominion.

The automobile manufacturing industry of Ontario in 1928 came first in the value of its products, which amounted to $162,363,825 as compared with $106,486,641 for the flour and grist milling industry, which held second place. Other important industries in descending order, with the value of their products in 1928, were:—slaughtering and meat-packing, $90,500,960; rubber goods, $76,152,513; and pulp and paper, $74,220,178. As compared with 1927, automobile manufacturing showed an increase of nearly $34,000,000, while flour and grist mill products decreased by over $1,000,000. Slaughtering and meat-packing increased by over $1,000,000, rubber goods by over $3,000,000, while pulp and paper manufacturing decreased about $90,000 from the figures for 1927.

As an indication of the greater diversification of industry in Ontario as compared with Quebec, the percentages which the 40 leading industries bear to the total manufacturing of the province are higher in nearly every particular in Quebec than in Ontario, especially in the capital employed and the number of establishments and employees. Outstanding among the industries in which the province of Ontario is pre-eminent is that of automobile manufacturing, which is carried on practically in this province alone. Other important industries in which Ontario leads, with the percentage which its production bore to that of the Dominion in 1928, are as follows:—agricultural implements, 95 p.c.; leather tanneries, 87 p.c.; rubber goods, 78 p.c.; furniture and upholstering, 78 p.c.; fruit and vegetable canning, preserving, etc., 62 p.c.; electric apparatus and supplies, 77 p.c.; castings and forgings, 65 p.c.; steel and rolled products, pig iron, etc., 59 p.c.; slaughtering and meat-packing, 52 p.c.; flour and grist mill products, 54 p.c.; hosiery, knit goods, etc., 70 p.c.

12.—Statistics of Forty Leading Industries of the Province of Ontario, 1928.

Industry.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Automobiles	11	95,571,751	16,391	28,863,826	114,879,949	162,363,825
Flour and grist mills	715	30,000,850	3,348	3,671,378	91,542,464	106,486,641
Slaughtering and meat-packing	25	32,833,629	4,996	6,618,659	74,665,094	90,500,960
Rubber goods, including footwear	31	58,510,946	11,643	14,198,415	37,958,741	76,152,513
Pulp and paper	43	220,281,502	10,993	15,732,781	29,718,660	74,220,178
Electrical apparatus and supplies	104	63,062,031	12,061	15,122,478	28,943,059	71,831,640
Central electric stations	420	396,344,873	6,654	10,723,034	19,566,558	67,311,989
Butter and cheese	1,000	21,944,296	6,170	6,491,908	49,957,982	64,980,854
Castings and forgings	184	57,658,842	13,311	17,724,051	20,712,813	54,500,029
Hosiery, knit goods and fabric gloves	107	42,219,449	12,714	10,977,379	21,441,827	40,977,220
Agricultural implements	44	88,283,656	10,287	12,975,484	16,705,290	39,134,169
Non-ferrous metal smelting and refining	5	34,145,647	2,530	3,990,461	8,762,837	37,159,476
Steel and rolled products, pig iron and ferro-alloys	16	72,098,748	4,709	9,092,742	17,859,303	36,926,646
Biscuits, confectionery, cocoa and chocolate	129	29,657,262	6,510	6,713,379	14,555,946	33,219,234
Bread and bakery products	960	19,693,170	7,137	8,120,394	16,511,830	33,098,415
Clothing, women's factory	210	13,825,601	9,026	9,418,031	18,357,637	32,806,828
Furniture and upholstered goods	217	32,744,027	9,387	10,422,830	12,801,419	32,457,143

12.—Statistics of Forty Leading Industries of the Province of Ontario, 1928—concluded.

Industry.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Machinery	116	44,343,656	6,429	8,933,960	10,751,421	31,955,826
Sawmill products	923	48,963,426	10,948	7,225,112	17,757,266	31,422,230
Sheet metal products	77	25,755,585	5,319	6,459,372	15,042,690	30,731,458
Leather, tanned, etc	40	26,574,429	3,245	3,733,910	23,025,209	30,683,133
Petroleum products	9	20,065,748	1,894	3,093,525	20,962,944	30,515,904
Printing and publishing	296	28,082,524	6,861	10,506,039	7,338,772	30,071,044
Planing mill products	336	28,572,322	5,861	6,582,920	15,586,143	26,454,235
Acids, alkalies, salts and compressed gases	20	27,658,302	1,850	2,699,769	13,162,489	25,061,950
Printing and bookbinding	418	21,081,495	5,961	7,969,675	7,033,880	21,828,683
Coke and gas products	22	46,629,491	2,463	3,524,693	10,849,063	21,459,356
Distilleries	6	29,255,493	1,023	1,426,533	5,519,631	19,883,092
Breweries	36	24,055,399	1,870	2,692,424	7,931,962	19,742,431
Brass and copper products	65	15,120,933	3,463	4,323,131	11,751,191	19,724,051
Boots and shoes, leather	65	11,174,306	5,106	5,107,115	9,338,147	17,971,958
Hardware and tools	84	21,311,395	4,950	5,898,619	6,294,765	17,788,230
Cotton yarn and cloth	16	19,486,715	5,129	4,409,724	9,319,754	17,035,667
Clothing, men's factory	61	9,996,629	4,239	5,225,908	7,613,464	16,863,164
Automobile supplies	45	15,516,147	3,188	4,326,488	7,904,282	15,813,930
Fruit and vegetable canning, etc	130	20,595,039	4,373	1,972,607	8,961,730	15,360,342
Soaps, washing compounds and toilet preparations	56	14,280,294	1,570	1,729,544	8,497,924	14,840,724
Boxes and bags, paper	76	11,826,229	3,119	3,219,740	7,060,874	13,834,278
Lithographing and engraving	64	14,191,018	3,825	5,957,961	3,991,347	13,547,878
Paints and varnishes	33	9,560,599	1,297	1,959,288	7,372,087	13,508,548
Totals, Forty Leading Industries	**7,215**	**1,842,973,454**	**241,855**	**299,835,287**	**838,008,444**	**1,550,225,872**
Grand Totals, All Industries	**9,900**	**2,275,921,056**	**320,729**	**391,375,947**	**1,034,501,240**	**1,949,724,119**
Percentages of forty leading industries to grand totals	72·88	80·97	75·41	76·61	81·00	79·51

Subsection 4.—The Manufactures of the Prairie Provinces, 1928.

The flour-milling industry is outstanding among the manufactures of the Prairie Provinces. During 1928, as will be seen from Table **13**, the gross value of the products of flour mills was greater in each province except Manitoba than that of any other industry and amounted to $18,788,855 in Manitoba, $15,781,289 in Saskatchewan and $21,005,113 in Alberta, a combined total of over 17 p.c. of the gross value of the products of manufactures in these provinces. The second industry in point of gross production was slaughtering and meat-packing, with products valued at $21,328,420 in Manitoba and $16,152,956 in Alberta. Butter- and cheese-making showed a gross value of production of $8,749,518 in Manitoba, $6,966,282 in Saskatchewan and $6,810,805 in Alberta.

The importance of these industries, based on such natural resources of the Prairie Provinces as grain-growing and cattle-raising areas, is evident. Attention may also be drawn to the generation of electric light and power in all three provinces and to the refining of petroleum in Alberta.

13.—Statistics of Ten Leading Industries of Manitoba, Saskatchewan and Alberta, 1928.

Note.—Other leading industries, statistics of which cannot be given because there are fewer than three establishments in each industry, are:—in Saskatchewan, petroleum refining and sheet metal products; in Alberta, railway rolling stock and cement. The statistics for these industries are included in the grand totals for the provinces.

MANITOBA.

Industry.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Slaughtering and meat-packing....	6	5,029,265	1,309	1,654,732	17,635,966	21,328,420
Flour and grist mills..............	38	6,050,473	540	657,740	15,203,144	18,788,855
Railway rolling stock.............	3	8,521,649	4,164	6,091,042	4,421,012	11,242,505
Butter and cheese..................	69	3,669,729	852	1,258,181	6,002,957	8,749,518
Central electric stations...........	39	46,634,904	1,355	2,077,126	936,950	6,801,801
Printing and publishing............	67	3,699,524	1,087	1,831,037	1,050,909	5,383,787
Bags, cotton and jute..............	5	2,161,309	252	290,964	4,394,477	5,043,513
Breweries..........................	8	5,672,630	575	841,030	1,379,871	4,943,868
Printing and bookbinding.........	63	4,140,821	1,240	1,764,850	1,476,949	4,214,511
Bread and bakery products.......	115	1,991,688	881	964,678	2,089,775	4,070,991
Totals, Ten Leading Industries	**495**	**87,571,992**	**12,255**	**17,431,380**	**54,592,010**	**90,567,769**
Grand Totals, All Industries..	**871**	**159,721,124**	**21,168**	**25,023,502**	**88,284,693**	**159,435,094**
SASKATCHEWAN.						
Flour and grist mill products......	63	6,090,218	594	817,973	12,288,373	15,781,289
Butter and cheese..................	88	4,155,554	602	783,929	4,719,284	6,966,282
Slaughtering and meat-packing....	3	2,663,674	545	674,830	5,007,526	6,353,478
Central electric stations...........	158	11,126,900	562	793,634	20,241	3,775,975
Printing and publishing............	135	2,753,562	842	1,408,584	768,325	3,588,886
Breweries..........................	7	3,334,606	216	277,779	1,440,537	3,531,601
Bread and bakery products.......	111	1,982,896	543	634,063	1,404,589	2,806,277
Planing-mill products.............	16	1,771,123	403	576,225	869,074	1,883,941
Dyeing, cleaning and laundry work	17	824,730	367	377,883	119,209	822,369
Aerated and mineral waters.......	17	573,751	91	111,702	148,147	440,909
Totals, Ten Leading Industries	**615**	**35,277,014**	**4,765**	**6,456,602**	**26,785,305**	**45,951,007**
Grand Totals, All Industries..	**737**	**44,622,135**	**6,173**	**8,003,577**	**34,186,731**	**59,125,280**
ALBERTA.						
Flour and grist mill products......	66	8,877,209	756	1,033,371	17,032,649	21,005,113
Slaughtering and meat-packing....	6	9,584,122	1,522	1,823,133	13,345,717	16,152,956
Petroleum products...............	5	5,645,866	442	631,077	7,156,864	11,255,742
Butter and cheese..................	105	3,028,025	498	648,456	5,195,128	6,810,805
Breweries..........................	5	8,168,084	317	551,148	1,535,923	6,790,228
Central electric stations...........	71	18,683,585	735	1,195,556	615,746	4,556,228
Bread and other bakery products.	128	2,752,067	620	704.107	1,736,721	3,520,789
Printing and publishing............	76	3,519,489	754	1,167,524	572,937	3,319,775
Sawmills...........................	65	1,930,042	1,237	688,983	1,198,074	2,547,101
Planing mills, etc..................	18	1,749,121	343	487,635	824,228	1,678,563
Totals, Ten Leading Industries	**545**	**63,937,610**	**7,224**	**8,930,990**	**49,213,987**	**77,637,300**
Grand Totals, All Industries..	**778**	**92,190,476**	**10,559**	**11,382,772**	**59,398,697**	**100,744,401**

Subsection 5.—The Manufactures of British Columbia, 1928.[1]

British Columbia was in 1928 the third most important manufacturing province in the Dominion, producing goods to a gross value of $270,851,669. About 23 p.c. of this production, or $62,536,200, is seen in Table **14** to be that of the sawmilling industry; the predominance of forest products industries in the industrial life of the province is emphasized if to this figure be added $18,714,056, the gross value of products of the pulp and paper industry and $3,825,208, that of the planing mills and sash and door factories. Second in importance among the industries of the province is that of fish-curing and -packing, with a gross value of products of $24,261,345, followed by the pulp and paper industry, electric light and power generation, and slaughtering and meat-packing.

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[1] Including Yukon Territory.

14.—Statistics of Twenty-five Leading Industries of British Columbia, 1928.[1]

NOTE.—Other leading industries, statistics of which cannot be given because there are fewer than three establishments in each industry, are non-ferrous metal smelting, sugar refining, cement and explosives The statistics for these industries are included in the grand total of all industries in the province.

Industry.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Sawmills	314	57,613,927	15,005	18,281,163	33,668,354	62,536,200
Fish-curing and -packing	136	20,961,338	7,176	3,488,386	12,908,157	24,261,345
Pulp and paper	6	47,331,108	2,855	4,432,572	5,357,002	18,714,056
Central electric stations	79	75,366,646	1,735	2,798,704	2,223,978	12,353,576
Slaughtering and meat-packing	7	6,197,315	671	927,375	9,764,492	11,550,069
Petroleum products	3	5,388,305	343	627,886	6,031,846	6,951,695
Printing and publishing	61	4,271,150	1,406	2,368,496	1,382,792	6,187,566
Bread and bakery products	209	3,120,796	1,151	1,317,643	2,689,065	5,160,482
Fruit and vegetable packing	24	3,501,466	1,270	782,496	3,231,797	5,073,854
Butter and cheese	36	1,878,230	513	750,295	3,397,436	4,932,788
Sheet metal products	18	6,999,930	557	811,042	2,665,411	4,842,089
Planing-mill products	52	2,921,001	1,022	1,306,515	1,765,365	3,825,208
Breweries	10	4,475,887	261	463,125	1,436,761	3,795,952
Coffee and spices	9	1,001,700	109	136,177	2,772,587	3,681,144
Distilleries	3	5,148,685	211	244,039	1,195,107	3,179,341
Shipbuilding and repairs	14	5,972,339	840	1,303,312	744,683	2,743,535
Dyeing, cleaning and laundry work	58	2,116,942	1,462	1,391,110	210,087	2,670,093
Biscuits, confectionery, cocoa and chocolate	44	1,377,126	512	536,097	1,417,257	2,566,949
Coke and gas products	6	12,602,896	500	686,899	1,009,010	2,338,628
Castings and forgings	28	3,178,532	682	939,806	611,892	2,219,065
Printing and bookbinding	73	1,472,462	541	781,639	732,786	2,041,445
Boxes and packing cases	13	1,484,078	533	582,571	1,042,417	2,034,728
Flour and feed mills	4	1,396,430	105	115,614	1,366,984	1,637,832
Paints and varnishes	8	1,387,547	161	199,378	716,704	1,435,094
Furniture and upholstering	40	1,353,310	501	551,371	508,763	1,251,709
Totals, Twenty-five Leading Industries	**1,255**	**278,519,146**	**40,122**	**45,823,711**	**98,941,733**	**197,984,443**
Grand Totals, All Industries	**1,624**	**367,898,589**	**48,949**	**58,726,003**	**137,185,812**	**270,851,669**
Percentages of twenty-five leading industries to grand totals.	77·27	75·70	81·97	78·03	72·12	73·09

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[1] Including Yukon Territory.

Section 4.—Principal Factors in Manufacturing Production.

Subsection 1.—Capital Employed.

In a retrospective study of capital employed in Canadian manufactures since 1900, the remarkable increase denotes rapid growth in industrial operations. From 1900 to 1905 the capital increased from $446,900,000 to $833,900,000, and advanced to $1,958,700,000 in 1915. During this period returns were received from establishments with 5 hands and over, and while the rise of wholesale prices did not exceed 37 p.c., the capital employed in manufactures increased nearly 340 p.c.

The capital investment in 1928 in all establishments irrespective of the number of employees was $4,780,296,049, as compared with $4,337,631,558 in 1927, and with $3,190,026,358 in 1921, an increase of 49 p.c. in 7 years.

The provincial distribution of the manufactures of Canada may be illustrated by the investments of capital. Capital employed in Ontario during 1920 was 49·5 p.c. of the total, 50·6 p.c. in 1921, 52·5 p.c. in 1923, 50·4 p.c. in 1925, 49·2 p.c. in 1927, and 47·6 p.c. in 1928. The percentage employed in the plants of Quebec was 30·5 in 1920, 30·8 in 1921, 29·5 in 1924, 30·6 in 1926, 31·7 in 1927 and 33·1 p.c. in 1928. British Columbia held third place in 1928 with a capital of 7·7 p.c. of the total, while Manitoba, Nova Scotia, New Brunswick and Alberta followed in the order named, with proportions of between 4 p.c. and 2 p.c each. (Table **15.**)

From a survey of the industrial groups in which the capital of the country is invested, it appears that the wood and paper group led in 1928, with an investment of 24·2 p.c. of the total. The central electric station industry was second with 20·0, the iron and steel group third with 14·7, and the vegetable products group fourth with 11·1 p.c. (Table **16.**)

The statistics of capital employed in the manufacturing industries are of interest in deducing the proportions of fixed and liquid assets. In 1921, lands, buildings and machinery constituted 60 p.c. of the total capital, while in 1923 the proportion had increased to 64 p.c., in 1924 to 65 p.c. and to 66 p.c. in 1926, 1927 and 1928. The fixed assets amounted to $3,142,419,861 in 1928, while quick assets, including the materials on hand, stock in process, cash and sundries, were valued at $1,637,876,188. Details by industrial groups and by provinces are given in Table **17.**

15.—Provincial Distribution of Capital Employed in the Manufacturing Industries of Canada, in Percentages, 1920-1928.

Province.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
Prince Edward Island	0·1	0·1	0·1	0·1	0·1	0·1	0·1	0·1	0·1
Nova Scotia	4·2	3·3	3·3	3·3	3·2	3·1	3·0	2·9	2·9
New Brunswick	3·1	3·1	2·5	2·5	2·5	2·4	2·4	2·3	2·4
Quebec	30·5	30·8	29·9	29·9	29·5	29·9	30·6	31·7	33·1
Ontario	49·5	50·6	52·3	52·5	51·8	50·4	49·8	49·2	47·6
Manitoba	3·4	2·9	2·7	2·7	3·1	3·2	3·2	3·5	3·3
Saskatchewan	0·9	1·0	1·0	0·9	0·9	0·8	0·8	0·9	0·9
Alberta	1·8	1·7	1·7	1·8	1·9	1·8	1·8	1·9	2·0
British Columbia and Yukon	6·5	6·5	6·5	6·5	7·1	8·3	8·3	7·5	7·7
Totals	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**

16.—Distribution of Capital Employed in the Manufacturing Industries of Canada by Industrial Groups and Percentages, 1926-1928.

Industrial Group.	1926.		1927.		1928.	
	Amount.	Percentage.	Amount.	Percentage.	Amount.	Percentage.
	$		$		$	
Vegetable products	449,259,094	11·3	494,176,054	11·4	531,918,725	11·1
Animal products	223,938,559	5·6	233,113,872	5·4	243,550,121	5·1
Textile products	317,275,429	8·0	346,512,165	8·0	365,721,591	7·7
Wood and paper	929,589,278	23·3	1,023,301,749	23·6	1,158,651,534	24·2
Iron and its products	597,982,098	15·0	638,914,893	14·7	702,931,186	14·7
Non-ferrous metals	202,503,426	5·1	208,957,166	4·8	253,367,370	5·3
Non-metallic minerals	261,724,184	6·6	280,033,057	6·4	298,693,122	6·3
Chemicals and allied products	133,407,891	3·3	134,618,839	3·1	148,939,920	3·1
Miscellaneous industries	109,669,565	2·8	111,178,478	2·6	119,602,877	2·5
Central electric stations	756,220,066	19·0	866,825,285	20·0	956,919,603	20·0
Totals	**3,981,569,590**	**100·0**	**4,337,631,558**	**100·0**	**4,780,296,049**	**100·0**

17.—Forms of Capital Employed in the Manufacturing Industries of Canada, by Provinces and by Groups of Industries, 1928.

Province and Group.	Establishments.	Land, Buildings, Fixtures, Machinery and Tools.	Materials on hand, Stocks in process, Finished Products, etc.	Cash, Trading and Operating Accounts and Bills Receivable.	Total Capital.
	No.	$	$	$	$
Totals	**23,379**	**3,142,419,861**	**836,980,419**	**800,895,769**	**4,780,296,049**
PROVINCE.					
Prince Edward Island	277	2,190,250	503,978	427,340	3,121,568
Nova Scotia	1,167	99,004,155	18,508,073	21,297,103	138,809,331
New Brunswick	794	74,272,694	21,201,866	19,186,326	114,660,886
Quebec	7,231	1,089,987,730	262,407,699	230,955,455	1,583,350,884
Ontario	9,900	1,413,704,065	430,188,189	432,028,802	2,275,921,056
Manitoba	871	112,289,985	25,229,009	22,202,130	159,721,124
Saskatchewan	737	29,965,089	8,894,731	5,762,315	44,622,135
Alberta	778	63,971,445	16,527,881	11,691,150	92,190,476
British Columbia and Yukon	1,624	257,034,448	53,518,993	57,345,148	367,898,589
INDUSTRIAL GROUP.					
Vegetable products	4,845	287,696,962	139,177,003	105,044,760	531,918,725
Animal products	4,542	119,286,669	74,215,651	50,047,801	243,550,121
Textiles and textile products	1,885	181,875,194	98,425,504	85,420,893	365,721,591
Wood and paper products	7,290	777,940,694	202,473,962	178,236,878	1,158,651,534
Iron and its products	1,159	379,937,969	155,343,328	167,649,889	702,931,186
Non-ferrous metal products	406	131,348,234	56,568,854	65,450,282	253,367,370
Non-metallic mineral products	1,178	215,035,996	46,659,899	36,997,227	298,693,122
Chemicals and allied products	572	85,784,820	29,820,374	33,334,726	148,939,920
Miscellaneous industries	453	61,942,805	23,723,270	33,936,802	119,602,877
Central electric stations	1,049	901,570,518	10,572,574	44,776,511	956,919,603

Subsection 2.—Employment in Manufactures.

The total number of persons engaged in those manufacturing industries of Canada for which statistics were obtained in 1928 was in that year 658,023, as compared with 618,933 in the same industries in 1927 and 456,076 in 1921. The 1928 employees included 91,243 salaried employees, this figure being obtained from the manufacturers at the end of the year, and 566,780 wage-earners, the average number employed, as derived from the manufacturers' records of the numbers on the pay-rolls on the 15th of each of the twelve months. Prior to 1925, the number of wage-earners was computed as the sum of the number recorded each month divided by 12 whether the establishment was operating the 12 months or not. Beginning with the statistics for 1925, in seasonal industries which are in operation only a limited number of months in each year, such as sawmilling, fruit and vegetable canning, etc., the average was computed by dividing the sum of the wage-earners reported on the 15th of each month by the number of months in operation. This change of method increased the apparent number of employees, especially in seasonal industries, but also in the groups containing such seasonal industries and in provincial and Dominion totals. Consequently, the change of method exerted a reducing influence on apparent average wages and on all other averages per wage-earner and per employee.

The number of salaried employees and of wage-earners, as thus ascertained, is given for each of the years since 1917, the year of the first annual census of manufacturing production, in Table **18.** Then, taking the percentage of those employed in each year to those employed in 1917, and dividing it into the volume of manufacturing production in each year (see Table **4** of this report for method used in obtaining this figure), the quotient gives a tentative conclusion regarding the efficiency of production per person employed in years subsequent to 1917, as compared with that year. This index of the efficiency of production per employee is, of course, affected by the change explained above in the method of computing the number of employees in 1925 and subsequent years as compared with 1924 and previous years. Inasmuch as the change increased the apparent number of employees in 1925 and later years, it proportionately decreased the index of the efficiency of production. How far the increased efficiency of recent years may be due to the use of improved appliances of production (the horse-power used per wage-earner employed increased from 3·04 in 1917 to 6·45 in 1928), how far to increased efficiency in the employees and how far to improvements in methods of organization, is a problem which cannot be solved for the country as a whole with our present information. It may, however, be possible for those having intimate knowledge of the business of individual firms to solve this problem with approximate accuracy for their own particular plants. The table here published may be considered as supplying satisfactory evidence of a general gain in volume of production per person employed. In this connection it should be remembered, however, that in 1917, owing to the large numbers overseas, many persons of low efficiency were being employed, their inefficiency being concealed at the time by the prevailing inflation of prices.

18.—Salaried and Wage-earning Employees in the Manufacturing Industries of Canada, with Volume of Manufacturing Production and Comparative Efficiency of Production, 1917-1928.

Year.	Salaried Employees.	Wage-Earners.	Total Employees.	Percentage of Number of Employees relative to 1917.	Index Number of Volume of Mf'd. Products.	Efficiency of Production.
	No.	No.	No.	p.c.		
1917	68,726	552,968	621,694	100·0	100·0	100·0
1918	70,706	547,599	618,305	99·5	102·0	102·5
1919	81,681	529,327	611,008	98·3	98·3	100·0
1920	83,015	526,571	609,586	98·1	95·2	97·0
1921	74,873	381,203	456,076	73·4	87·4	119·1
1922	76,040	398,390	474,430	76·3	97·7	128·1
1923	78,273	446,994	525,267	84·5	106·7	126·3
1924	76,230	432,273	508,503	81·8	104·7	128·0
1925	77,623	466,602	544,225	87·5	112·4	128·5
1926	81,794	499,745	581,539	93·5	128·6	137·5
1927	85,483	533,450	618,933	99·6	140·4	141·0
1928	91,243	566,780	658,023	105·8	157·1	148·5

Statistics of employment in manufacturing industries during 1928 derived from the Census of Manufactures, are shown in Table **6** of this chapter, (pp. 424-429). According to these statistics, the 23,379 establishments covered employed 91,243 salaried employees and 566,780 wage-earners, a total of 658,023 persons. Out of every 1,000 persons employed in manufacturing, 139 were classed as salary earners and 861 as wage-earners; the former earned 23·2 p.c. and the latter 76·8 p.c. of the total amount paid out as remuneration for services.

Provincial Distribution of Employees in 1928.—An analysis of the returns by provinces shows that 49,162 or 53·8 p.c. of all employees on salaries were employed in Ontario; of this number 36,204 were males and 12,958 were females. The proportion that the male salary workers in Ontario bore to the total number of such workers was 51·8 p.c., while female office employees constituted 60·6 p.c. of the total. In Quebec, which, with 25,246 persons, recorded the second largest number of salaried workers, were situated 28·8 p.c. of the male and 24·0 p.c. of the female salaried employees. British Columbia also had a higher proportion of male than female salaried employees, having 6·4 p.c. of male to 4·5 p.c. of female salary earners. Of the total salaries, $94,376,781 or 54·0 p.c. was reported in Ontario, $49,485,152 or 28·3 p.c. in Quebec, and $10,587,954 or 6·1 p.c. in British Columbia.

The male wage-earners numbered 441,189 and the female 125,591; 48·4 p.c. of the former and 46·0 p.c. of the latter were employed in Ontario. Quebec manufacturers reported 29·8 p.c. of the males as compared with 38·6 p.c. of the females, while British Columbia had 8·5 p.c. of the males and 4·6 p.c. of the females. As to earnings, Ontario firms paid out 51·2 p.c. of the total, Quebec 29·0 p.c. and British Columbia 8·3 p.c.

Distribution by Industries.—The wood and paper industries, with 19,952 salaried employees, reported a larger number of these than any other group, having 21·9 p.c. of the total and paying 23·1 p.c. of the aggregate salaries; 24·4 p.c. of the total wage-earners belonged to this group, which paid out 23·9 p.c. of the wages. Only 8·9 p.c. of the total females working for wages were in the wood and paper industries, as compared with 28·8 p.c. of the total males on wages. The textile industries had 18·4 p.c. of the wage-earners, who earned 14·5 p.c. of the wages; the number of female workers in these industries formed 50·0 p.c. of the total females and the males only 9·3 p.c. of the aggregate of male wage-earners. In the iron and steel group, 18·4 p.c. of the total workers were paid 23·8 p.c. of the total wages. The number of men employed in these industries constituted 22·9 p.c. of the total male wage-earners in 1928, while only 2·6 p.c. of the total female wage-earners were engaged in iron and steel plants.

19.—Percentages of Male and Female Employees on Salaries and Wages, by Provinces and Groups of Industries, 1928.

Province and Group.	Employees on Salaries.		Salaries.	Employees on Wages.		Wages.
	Males.	Females.		Males.	Females.	
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
PROVINCE.						
Prince Edward Island	0·2	0·1	0·1	0·3	0·6	0·1
Nova Scotia	2·0	1·9	1·6	3·2	2·7	2·2
New Brunswick	1·9	1·8	1·8	2·9	2·9	2·0
Quebec	28·8	24·0	28·3	29·8	38·6	29·0
Ontario	51·8	60·6	54·0	48·4	46·0	51·2
Manitoba	4·5	3·9	4·3	4·0	2·9	4·3
Saskatchewan	1·8	1·1	1·5	0·9	0·4	0·9
Alberta	2·6	2·1	2·3	2·0	1·3	2·0
British Columbia and Yukon	6·4	4·5	6·1	8·5	4·6	8·3
Totals	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**
INDUSTRIAL GROUP.						
Vegetable products	12·9	12·9	13·1	11·0	18·6	11·2
Animal products	12·6	9·4	9·6	9·4	12·2	7·8
Textile products	9·3	15·1	10·9	9·3	50·0	14·5
Wood and paper products	22·0	21·5	23·1	28·8	8·9	23·9
Iron and its products	16·4	15·5	17·4	22·9	2·6	23·8
Non-ferrous metal products	7·2	8·2	7·3	5·6	3·3	6·0
Non-metallic mineral products	4·3	3·1	4·0	5·5	0·6	5·2
Chemicals and allied products	4·7	5·7	4·9	2·0	2·2	2·0
Miscellaneous industries	3·4	3·0	3·7	3·3	1·6	3·2
Central electric stations	7·2	5·6	6·0	2·2	–	2·4

Monthly Record of Employment in Manufactures, 1928.—A monthly record of the number of wage-earners employed in Canadian manufactures, as compiled by the Census of Industry, is given by sex in Table **20**, which shows that the peak of employment was in September, when manufacturing generally was at a high level. The number engaged in factories increased steadily from the beginning of 1928 until September; thereafter there was a small monthly reduction until the end of the year. During the period of continuous expansion up to September, 95,500 persons were added to the pay rolls of the reporting manufacturers.

While employment for male operatives expanded from the beginning of the year to its maximum in August, the number of female workers was greatest in September, chiefly on account of seasonal activity in the vegetable and fruit preserving group, which employs a considerable proportion of women. Textiles, the one group in which the majority of workers are women, also reported more than average employment during the autumn. Indicative of the expansion of industrial operations during 1928 is the fact that in every month of that year the number of wage-earners employed exceeded the total for the corresponding month of the previous year and this excess was greatest in the later months of the year.

20.—Total Number of Wage-Earners Employed in the Manufacturing Industries of Canada, by Months, 1927 and 1928.

Month.	1927.			1928.		
	Males.	Females.	Total.	Males.	Females.	Total.
January	360,284	103,739	464,023	365,790	107,362	473,152
February	370,933	106,691	477,624	379,547	110,764	490,311
March	382,119	108,966	491,085	393,416	112,814	506,230
April	391,606	108,764	500,370	408,559	114,007	522,566
May	406,949	111,813	518,762	432,338	116,874	549,212
June	415,228	112,686	527,914	442,945	117,921	560,866
July	413,086	112,400	525,486	445,664	116,707	562,371
August	408,799	113,130	521,929	447,717	120,082	567,799
September	403,837	117,113	520,950	443,060	125,592	568,652
October	396,580	118,527	515,107	437,597	125,090	562,687
November	383,018	114,906	497,924	422,045	122,168	544,213
December	368,692	111,404	480,096	407,257	117,191	524,448

Days in Operation and Hours Worked.—During 1928, each plant, on the average, operated full time 229 days. The average day was 8·5 hours and the average week 49·6 hours. The time in operation and the average number of hours worked are shown by provinces and industrial groups in Table **21**.

21.—Number of Days in Operation and of Hours Worked per Shift and per Week in the Manufactures of Canada, by Provinces and Groups, 1928.

Province and Group.	Number of Establishments.	Time in Operation—Number of Days.			Average Days in Full Time Operation per Establishment.	Average Hours Worked.[1]	
		Full Time.	Part Time.	Idle.		Per Shift.	Per Week.
PROVINCE.							
Prince Edward Island	277	31,802	8,847	40,155	115	8·4	49·8
Nova Scotia	1,167	208,777	16,026	135,705	179	9·0	53·4
New Brunswick	794	140,936	11,723	88,350	178	8·3	48·9
Quebec	7,231	1,578,853	91,771	420,447	218	9·0	52·5
Ontario	9,900	2,386,268	166,493	402,564	241	8·3	48·0
Manitoba	871	231,751	12,842	22,010	266	8·3	47·8
Saskatchewan	737	179,994	35,302	16,285	244	8·7	51·0
Alberta	778	202,511	12,762	26,066	260	8·3	48·5
British Columbia and Yukon	1,624	393,897	23,404	83,124	243	7·4	47·1
Totals	**23,379**	**5,354,789**	**379,170**	**1,234,706**	**229**	**8·5**	**49·6**
INDUSTRIAL GROUP.							
Vegetable products	4,845	1,202,656	96,303	196,259	248	8·8	52·8
Animal products	4,542	968,291	34,337	159,125	213	7·3	42·9
Textile products	1,885	480,860	43,798	39,566	255	8·5	46·8
Wood and paper products	7,290	1,376,568	98,551	741,311	189	9·0	52·6
Iron and its products	1,159	330,505	11,894	11,697	285	8·7	48·3
Non-ferrous metal products	406	116,439	2,503	5,076	287	8·1	45·5
Non-metallic mineral products	1,178	279,723	18,535	59,285	238	8·0	46·7
Chemicals and allied products	572	157,421	4,602	12,900	275	7·3	41·9
Miscellaneous industries	453	121,780	7,542	8,086	269	8·7	48·8
Central electric stations	1,049	320,546	61,105	1,401	305	–	–

[1] Information on these points is incomplete for dairy factories in Prince Edward Island and Quebec and for all central electric stations. These establishments have therefore been eliminated in working out the averages.

Subsection 3.—Wages and Salaries in Canadian Manufacturing Industries, 1928.

The total amount disbursed by manufacturers in salaries and wages during 1928 was $755,199,372 paid to 658,023 workers, as compared with $693,932,228 paid to 618,933 persons in 1927 and $653,850,933 paid to 581,539 persons in 1926. Of the 1928 aggregate, $174,770,879 or 23·2 p.c. was paid to 91,243 salaried employees who constituted 13·9 p.c. of the total number, and $580,428,493 or 76·8 p.c. was paid in wages to 566,780 wage-earners, who formed 86·1 p.c. of the aggregate number of employees.

The average salary paid in the manufacturing industries during 1928 was $1,915, compared with $1,899 in 1927, $1,867 in 1926, $1,843 in 1925, $1,831 in 1924 and $1,824 in 1923. The average wage paid was $1,024 in 1928, $997 in 1927, $1,003 in 1926, $971 in 1925, $972 in 1924 and $959 in 1923.

The increase of 9·2 p.c. recorded in aggregate wages in 1928 as compared with the preceding year was accompanied by a 6·2 p.c. gain in the number of operatives employed, while the average wage increased by 2·7 p.c. Employees on salaries increased by 6·7 p.c. and aggregate salaries by 7·6 p.c., while average salaries advanced by 0·8 p.c.

The proportion of female wage-earners per 1,000 was 222 and of male operatives 778 during 1928, while in each 1,000 salary earners 234 were women and 766 were men. The proportion of females among wage-earners was slightly less, while that among salaried employees was greater than in the preceding year. The number of male salary-earners increased by 6·0 p.c. in 1928 as compared with 1927, while there was a gain of 9·1 p.c. in the number of women office help employed. The percentages of increase among wage-earners were 6·6 for the males and 4·9 for the females.

Average Earnings, by Provinces, of Persons Employed in Manufactures.— Table 22 shows the number of salary and wage-earners and the average salary and wage paid in 1928 by manufacturers in the various provinces, also average earnings in 1927.

There were successive rises in average salaries from Prince Edward Island to Quebec, which showed the highest average of all the provinces, while the mean in British Columbia and Ontario was slightly lower than in Quebec. In the Prairie Provinces, the averages were also smaller, especially in Saskatchewan and Alberta, where salaries were, on the whole, below those in New Brunswick. In British Columbia and the Yukon the average was $1,955. Over 60 p.c. of the total female salary earners were employed in Ontario, as compared with only 52 p.c. of the total male salaried workers; in Quebec and British Columbia, on the other hand, the proportion of women workers was lower than that of men.

There were general increases in average wages from the eastern provinces through to Manitoba, where the mean for the year, $1,182, was the highest in the Dominion, being $158 greater than the general average. In the western provinces there was an unusually small proportion of women workers, while many of the male employees were engaged in the better-paid wood and paper, electric light and power industries. In the four provinces situated to the east, average wages in manufacturing were lower than the mean for the Dominion, while from Ontario westward the opposite was the case.

The seasonal nature of some of the leading manufactures, notably fish-preserving and lumbering, tended to reduce the mean wage in the Maritime Provinces. These industries, in which 37 p.c. of the reported wage-earners in these provinces were engaged, worked on the average only 102 and 91 days respectively during 1928. Quebec, where the mean wage was below the general average, reported a larger proportion of female workers than the other provinces; of these a considerable number were employed in the textile, food and other industries. That province had 38·6 p.c. of the total number of women employed in manufacturing in the Dominion, as compared with 29·8 p.c. of the aggregate male operatives, but the 31·7 p.c. of the total wage-earners reported in Quebec received only 29·0 p.c. of the total wages. On the other hand, in Ontario, where the mean was higher than the general average, 48·4 p.c. of the total males and 46·0 p.c. of the total females, or 47·9 p.c. of the general aggregate, were paid 51·2 p.c. of the total wages disbursed. The fact that average wages in Alberta and British Columbia were lower than in Manitoba and Saskatchewan was partly a result of the seasonal nature of some of the industries in the former provinces, especially fish and fruit-preserving and sawmilling in British Columbia.

22.—Employees on Salaries and Wages in Manufacturing Industries, 1928, and Average Salaries and Wages, by Provinces, 1927 and 1928.

Province.	Employees on Salaries.			Average Salaries.		Employees on Wages.			Average Wages.	
	Male.	Female.	Total.	1928.	1927.	Male.	Female.	Total.	1928.	1927.
	No.	No.	No.	$	$	No.	No.	No.	$	$
Prince Edward Island....	151	31	182	1,011	912	1,121	732	1,853	285	254
Nova Scotia..............	1,383	395	1,778	1,603	1,635	14,008	3,436	17,444	745	675
New Brunswick..........	1,313	375	1,688	1,855	1,817	12,656	3,619	16,275	710	694
Quebec....................	20,109	5,137	25,246	1,960	1,932	131,279	48,434	179,713	937	916
Ontario......................	36,204	12,958	49,162	1,920	1,906	213,754	57,813	271,567	1,094	1,071
Manitoba..................	3,169	829	3,998	1,887	1,863	17,540	3,628	21,168	1,182	1,135
Saskatchewan............	1,269	236	1,505	1,721	1,684	4,201	467	4,668	1,160	1,142
Alberta....................	1,810	458	2,268	1,755	1,755	8,915	1,644	10,559	1,078	1,065
British Columbia and Yukon.................	4,450	966	5,416	1,955	1,983	37,715	5,818	43,533	1,106	1,077
Totals...............	**69,858**	**21,385**	**91,243**	**1,915**	**1,899**	**441,189**	**125,591**	**566,780**	**1,024**	**997**

Average Earnings in 40 Leading Industries.—Table **23** is a record of employees by sex and of average salaries and wages paid in the 40 leading industries of Canada during 1928, together with the average number of days the establishments in each industry operated. Averages for 1927 are also given.

Average Salaries.—In 3 industries the average salaries exceeded $2,500; in 15 they were from $2,000 to $2,500; in 19 they ranged between $1,500 and $2,000, while in only 3 were they below $1,500 during 1928. None of the six groups paying the highest salaries—sugar refineries; leather tanneries; pulp and paper; rolled products, pig iron, steel products and ferro-alloys; petroleum products and distilleries—reported a proportion of female workers equal to the general percentage in the 40 industries, while the numbers employed were rather small except in the pulp and paper industry. In the groups paying an average salary of over $2,000, only the automobile, hosiery and knitted goods, furniture and upholstering, printing and bookbinding, coffee and spices, and paints and varnishes industries employed more than the general proportion of female office help. The lowest salaries, ranging between $1,000 and $1,500, were reported in the butter and cheese, fish-curing and packing, and coke and gas industries. Various factors contributed to reduce the mean yearly remuneration of these groups. Fish-preserving plants operate during a very short active season; butter and cheese factories, which also work less than the average number of days, are mainly situated in small towns and country places; while in coke and gas plants the percentage of women on salaries was above the average.

Average Wages.—The highest wages, varying between $1,300 and $1,700, were paid in the automobile, rolled products, pig iron, steel products and ferro-alloys, non-ferrous metal smelting, petroleum refining, coke and gas products, central electric stations, printing and publishing, railway rolling stock, and sugar refining industries, in all of which the proportion of female workers was below the general average. In 19 industries, the wages paid averaged between $1,000 and $1,300; in 11 groups, they averaged between $500 and $1,000; while in one highly seasonal industry—fish-curing and packing—they were under $500. In this industry, the number of days in operation throughout the Dominion during 1928 averaged only 102; the proportion of female workers was also high, being 38·8 p.c., as compared with the general proportion of 19·8 p.c. in the 40 industries. In the textile divisions wages were generally low, employees in men's clothing factories receiving the highest remuneration in the group with an average wage of $994. The proportion of women workers employed in these trades was large, while the number of days in operation was above the average. Sawmills worked on the average 91 days, employing males almost exclusively; these employees were paid an average wage of $715 during the season of 1928.

23.—Employees by Sex in Forty Leading Canadian Manufacturing Industries during 1928, with Averages of Salaries and Wages Paid and of Number of Days Operated by Plants in each Industry for 1927 and 1928.

SALARIES.

Industry.	Employees on Salaries.			Average Salary.	
	Male.	Female.	Total.	1928.	1927.
	No.	No.	No.	$	$
Pulp and paper	2,962	545	3,507	2,485	2,550
Flour and grist mill products	910	211	1,121	1,924	1,914
Slaughtering and meat-packing	2,200	477	2,677	1,828	1,797
Automobiles	1,740	696	2,436	2,158	2,231
Central electric stations	5,003	1,211	6,214	1,683	1,653
Sawmills	1,665	233	1,898	2,116	2,059
Butter and cheese	3,519	594	4,113	1,098	1,079
Rubber goods, including footwear	1,649	496	2,145	1,684	1,707
Non-ferrous metal smelting	612	73	685	2,388	2,408
Electrical apparatus and supplies	3,125	1,218	4,343	1,796	1,721
Petroleum products	412	62	474	2,466	2,300
Castings and forgings	1,803	527	2,330	2,072	2,148
Cotton yarn and cloth	593	127	720	2,429	2,365
Railway rolling stock	1,391	92	1,483	2,178	2,186
Bread and bakery products	659	322	981	1,548	1,586
Printing and publishing	4,561	1,647	6,208	1,690	1,683
Clothing, women's factory	1,083	748	1,831	1,981	1,926
Steel and rolled products, pig iron, ferro-alloys, etc.	522	92	614	2,513	2,470
Cigars and cigarettes	1,051	296	1,347	1,889	1,994
Breweries	835	118	953	2,408	2,335
Biscuits, confectionery, chocolate, chewing gum, etc	1,810	697	2,507	1,829	1,838
Hosiery, knitted goods and gloves	756	455	1,211	2,130	2,210
Planing mills, sash and door factories	1,099	248	1,347	1,846	1,756
Sugar refineries	239	60	299	3,087	2,873
Machinery	1,719	542	2,261	1,951	1,887
Boots and shoes, leather	1,002	368	1,370	1,980	1,974
Sheet metal products	939	309	1,248	1,886	1,948
Clothing, men's factory	1,039	405	1,444	1,905	1,984
Acids, alkalies, salts and compressed gases	498	105	603	1,927	2,088
Furniture and upholstering	862	346	1,208	2,172	2,029
Agricultural implements and machinery	1,253	406	1,659	1,769	1,599
Printing and bookbinding	1,488	545	2,033	2,038	1,995
Distilleries	249	64	313	2,466	1,992
Fish-curing and -packing	577	53	630	1,355	1,363
Leather tanneries	240	52	292	2,729	2,448
Coke and gas products	653	230	883	1,477	1,525
Furnishing goods, men's	559	275	834	1,677	1,677
Brass and copper products	762	193	955	1,785	1,844
Paints and varnishes	774	224	998	2,080	2,236
Coffee, spices, etc	435	137	572	2,180	2,241
Totals, Forty Leading Industries	**53,248**	**15,499**	**68,747**	**1,892**	**1,868**
Grand Totals, All Industries	**69,858**	**21,385**	**91,243**	**1,915**	**1,899**

23.—Employees by Sex in Forty Leading Canadian Manufacturing Industries during 1928, with Averages of Salaries and Wages Paid and of Number of Days Operated by Plants in each Industry for 1927 and 1928—concluded.

WAGES.

Industry.	Employees on Wages.			Average Wage.		Average Days in Full and Part Time Operation.	
	Male.	Female.	Total.	1928.	1927.	1928.	1927.
	No.	No.	No.	$	$	No.	No.
Pulp and paper	29,253	854	30,107	1,282	1,357	271	263
Flour and grist mill products	5,292	143	5,435	1,003	993	226	226
Slaughtering and meat-packing	7,787	780	8,567	1,092	1,151	289	292
Automobiles	14,075	238	14,313	1,693	1,580	308	307
Central electric stations	9,641	-	9,641	1,414	1,515	364	365
Sawmills	42,888	76	42,964	715	713	91	96
Butter and cheese	7,077	221	7,298	993	956	226	220
Rubber goods, including footwear	10,769	4,181	14,950	1,029	1,016	281	271
Non-ferrous metal smelting	6,804	37	6,841	1,550	1,504	359	354
Electrical apparatus and supplies	10,892	2,958	13,850	1,084	1,070	291	296
Petroleum products	3,820	25	3,845	1,496	1,497	314	307
Castings and forgings	18,124	328	18,452	1,192	1,148	294	285
Cotton yarn and cloth	12,139	8,756	20,895	763	755	282	287
Railway rolling stock	20,891	43	20,934	1,396	1,358	291	286
Bread and bakery products	12,495	1,946	14,441	1,065	1,085	299	297
Printing and publishing	8,421	1,484	9,905	1,397	1,699	299	299
Clothing, women's factory	3,961	10,559	14,520	899	883	282	277
Steel and rolled products, pig iron, ferro-alloys, etc	8,419	24	8,443	1,650	1,529	303	296
Cigars and cigarettes	1,966	3,331	5,297	692	678	265	263
Breweries	4,014	36	4,050	1,182	1,167	285	286
Biscuits, confectionery, chocolate, chewing gum, etc	4,554	6,213	10,767	742	724	275	274
Hosiery, knitted goods and gloves	5,165	11,598	16,763	748	733	284	282
Planing mills, sash and door factories	10,674	110	10,784	1,007	1,057	266	117
Sugar refineries	1,979	103	2,082	1,320	1,203	265	250
Machinery	8,328	266	8,594	1,230	1,174	301	294
Boots and shoes, leather	8,563	5,572	14,135	868	871	283	287
Sheet metal products	6,668	816	7,484	1,109	1,064	293	294
Clothing, men's factory	4,729	5,706	10,435	994	986	249	255
Acids, alkalies, salts and compressed gases	2,330	10	2,340	1,274	1,353	322	308
Furniture and upholstering	10,810	521	11,331	981	989	289	289
Agricultural implements and machinery	9,108	100	9,208	1,158	1,147	289	278
Printing and bookbinding	7,232	2,529	9,761	1,184	1,115	296	295
Distilleries	1,259	312	1,571	1,139	1,208	279	272
Fish-curing and -packing	9,053	5,751	14,804	298	280	102	101
Leather tanneries	3,561	99	3,660	1,008	991	280	292
Coke and gas products	3,024	7	3,031	1,420	1,379	348	-
Furnishing goods, men's	1,217	7,858	9,075	647	640	283	290
Brass and copper products	4,067	415	4,482	1,137	1,128	296	297
Paints and varnishes	1,645	238	1,883	1,004	998	303	296
Coffee, spices, etc	671	425	1,096	953	929	295	301
Totals, Forty Leading Industries	**343,365**	**84,669**	**428,034**	**1,046**	**1,015**	**238**	**237**
Grand Totals, All Industries	**441,189**	**125,591**	**566,780**	**1,024**	**997**	**245**	**245**

Real Earnings of Employees in Recent Years.—The total amount paid to the employees in industrial plants during 1928 was $755,199,372, as compared with $509,382,027 in 1917. The wage payments in 1928 were $580,428,493, while the salaried employees received a remuneration of $174,770,879. The average yearly wage of the wage-earner was $1,024 in 1928, as compared with $760 in 1917, an increase of 34·8 p.c. in average earnings. When the index number representing the average yearly wages, with 1917 as a base, is divided by the index number of the cost of living, converted to the same base, it is seen that real wages advanced by 16·4 p.c. between 1917 and 1928. The details of the computation are given in Table **24**.

24.—Average Yearly Earnings and Real Wages of Wage-Earners in Manufacturing Industries, 1917-1928.

Year.	Amount of Wages Paid.	Average Number of Wage-Earners.	Average Yearly Earnings.	Index Numbers.		
				Average Yearly Earnings.	Cost of Living.	Real Value of Average Yearly Earnings.
	$	No.	$			
1917	420,094,869	552,968	760	100·0	100·0	100·0
1918	480,949,599	547,599	878	115·5	113·8	101·5
1919	496,570,995	529,327	938	123·4	125·3	98·5
1920	583,853,225	526,571	1,109	145·9	145·2	100·4
1921	381,910,145	381,203	1,002	131·8	127·6	103·2
1922	374,212,141	398,390	939	123·6	116·8	105·8
1923	428,731,347	446,994	959	126·1	116·8	107·9
1924	420,269,406	432,273	972	127·9	114·5	111·7
1925	452,958,655	466,602	971	127·8	116·0	110·2
1926	501,144,989	499,745	1,003	132·0	116·8	113·0
1927	531,583,250	533,450	997	131·3	115·1	114·1
1928	580,428,493	566,780	1,024	134·8	115·8	116·4

Percentage of Wages and Salaries to Value of Products.—An interesting inquiry is that regarding the relation between wages and salaries paid by manufacturers and the total net value of production. Figures of gross production are often used in such calculations, but the values out of which the wages of employees must in the long run come are the values added to the raw materials while they are in the factory. Such added values constitute the real production of the manufacturing plant, and are alone available for payment of wages and salaries; of interest, rent and taxes; and of charges for fuel, power, lighting, repairs, and all other overhead charges. While amounts paid on some of these accounts are not readily ascertainable, amounts paid in wages and salaries are available from the statistics of the Census of Manufactures. These figures are given for 1917 and subsequent years in Table **25**, and show the increasing part of the manufacturer's dollar which has gone to his salaried and wage-earning employees. In the eight latest years, salaries seem to bear a particularly large percentage to the total net production, although a steady decline has taken place since 1924; on the other hand the percentage of wages to total net product was almost the same in 1928 as in 1917.

25.—Percentages of Wages and Salaries Paid to Total Net Value of Manufacturing Production, 1917-1928.

Year.	Value added by Process of Manufacture.	Salaries Paid.	Wages Paid.	Percentage—		
				of Salaries to Values Added.	of Wages to Values Added.	of Total Salaries and Wages to Values Added.
	$	$	$	p.c.	p.c.	p.c.
1917	1,332,180,767	89,287,158	420,094,869	6·7	31·5	38·2
1918	1,460,723,777	101,507,889	480,949,599	6·9	32·9	39·8
1919	1,509,870,745	121,892,144	496,570,995	8·1	32·9	41·0
1920	1,686,978,408	148,267,360	583,853,225	8·8	34·6	43·4
1921	1,209,143,344	136,874,992	381,910,145	11·3	31·6	42·9
1922	1,198,434,407	136,219,171	374,212,141	11·4	31·2	42·6
1923	1,311,025,375	142,738,681	428,731,347	10·9	32·7	43·6
1924	1,256,643,901	139,614,639	420,269,406	11·1	33·4	44·5
1925	1,360,879,907	143,056,516	452,958,655	10·5	33·3	43·8
1926	1,492,645,039	152,705,944	501,144,989	10·2	33·6	43·8
1927	1,635,923,936	162,348,978	531,583,250	9·9	32·5	42·4
1928	1,819,046,025	174,770,879	580,428,493	9·7	31·9	41·5

Subsection 4.—Size of Manufacturing Establishments.

An essential characteristic of the recent evolution of industry has been the increase in the size of the typical manufacturing establishment. The full utilization of highly specialized machinery necessitates large-scale production, while the improvements in transportation have widened the market, and the development of more efficient methods of business administration has made it possible for the individual manufacturer to supervise effectively a larger plant. An increase in the scale of production of the typical manufacturing establishment has been experienced in all industrial countries which have been affected by the so-called "Industrial Revolution", and not least in Canada, where the rise of the factory system in industry has taken place approximately since Confederation.

The size of the manufacturing establishment is generally measured either by the number of employees or by the value of product, but each of these methods has its limitations. The former takes no account of the differences in capital equipment at different times or in various industries and obviously the increased use of machinery, as in the flour-milling industry, may lead to increased production concurrently with a decrease in the number of employees. The latter measure has to be adjusted for changes in the price level; and, as between industries, it makes those which handle expensive raw materials appear to operate on a larger scale. Both measures are subject to two limitations: firstly, they depend on the fluctuation of business activity and the demand of the consumer; secondly, over any lengthy period of time there is the difficulty of comparability resulting from changes in the method of the census.

Thus, while it is possible in a general way to state that the average size of the manufacturing establishment in Canada has increased between 1870 and 1928, the 1928 figures are not on the same basis as the 1870 figures, especially since they do not include all the small custom and repair establishments included at the earlier date. The same difficulty arises right up to the most recent times. It is only in the last few years that the statistics have been so analysed as to be strictly comparable, and the results of this analysis are given in Tables **26** to **29**.

Size as Measured by Gross Value of Products.—In Tables **26** and **27** the size of the establishments reporting to the Census of Manufactures is shown by the gross value of products—Table **26** giving comparative figures for 1922 (the first year for which the figures are available) and 1928, and Table **27** the figures by provinces for 1928.

The comparative Table **26** shows that while in 1922 the 420 establishments which had each a gross production of over $1,000,000 had an aggregate value of products of $1,268,056,129 or 51 p.c. of the total production of all manufacturing industries, the 686 establishments producing over $1,000,000 each in 1928 had an aggregate value of products of $2,281,557,030, or 61 p.c. of the grand total for all manufacturing establishments—a very significant change in the short period of six years when the general trend of prices of manufactured goods was slightly downward.

26.—Manufacturing Establishments Grouped According to Gross Values of Products, with Total and Average Values of Products in each Class, for Canada, 1922 and 1928.

Group.	1922.			1928.		
	Establishments.	Total Production.	Average Production.	Establishments.	Total Production.	Average Production.
Gross Value of Products.	No.	$	$	No.	$	$
Under $25,000	14,978	114,205,770	7,625	13,832	115,596,912	8,357
$ 25,000 but under $ 50,000	2,401	85,075,807	35,433	2,914	102,571,534	35,199
50,000 " 100,000	1,793	129,320,947	72,125	2,214	156,731,006	70,790
100,000 " 200,000	1,355	191,675,689	141,458	1,646	232,587,735	141,304
200,000 " 500,000	1,078	330,533,712	306,617	1,482	460,666,559	310,841
500,000 " 1,000,000	516	363,341,076	704,149	605	420,139,588	694,445
1,000,000 " 5,000,000	364	692,463,530	1,902,372	586	1,180,296,944	2,014,158
5,000,000 and over	56	575,592,599	10,278,439	100	1,101,260,086	11,012,600
Totals	**22,541**	**2,482,209,130**	**110,119**	**23,379**	**3,769,850,364**	**161,249**

27.—Manufacturing Establishments Grouped According to Gross Values of Products, with Total Values of Products in each Class, by Provinces, 1928.

Group.	Prince Edward Island.		Nova Scotia.		New Brunswick.	
	Establishments.	Production.	Establishments.	Production.	Establishments.	Production.
Gross Value of Products. (000 omitted.)	No.	$	No.	$	No.	$
Under $ 25	236	1,566,130	859	5,860,185	561	4,372,736
$ 25—$ 50	21	740,075	117	4,017,535	88	3,047,956
50— 100	14	973,680	86	6,155,381	44	3,310,509
100— 200	5	759,825	49	6,844,928	45	6,588,321
200— 500	1	405,450	36	10,373,045	27	8,702,300
500— 1,000	–	–	8	5,164,153	16	11,061,161
1,000— 5,000	–	–	9	18,334,245	12	21,852,181
5,000 and over	–	–	3	28,199,136	1	8,478,578
Totals	**277**	**4,445,160**	**1,167**	**84,948,608**	**794**	**67,413,742**
—	Quebec.		Ontario.		Manitoba.	
Under $ 25	4,855	37,212,277	5,033	43,967,215	437	3,634,782
$ 25—$ 50	751	26,056,111	1,443	51,441,600	103	3,499,976
50— 100	511	36,392,194	1,109	78,434,351	125	8,920,443
100— 200	395	56,738,550	843	118,251,980	81	11,632,526
200— 500	373	115,735,163	793	248,112,388	63	19,102,715
500— 1,000	156	108,924,768	324	223,713,670	22	14,593,329
1,000— 5,000	150	322,152,258	314	627,391,151	36	67,603,428
5,000 and over	40	369,950,970	41	558,411,764	4	30,447,895
Totals	**7,231**	**1,073,162,291**	**9,900**	**1,949,724,119**	**871**	**159,435,094**
—	Saskatchewan.		Alberta.		British Columbia.	
Under $ 25	529	2,159,342	462	5,501,957	860	11,322,288
$ 25—$ 50	79	2,806,487	126	4,446,644	186	6,515,150
50— 100	56	3,969,146	78	5,286,311	191	13,288,991
100— 200	34	4,328,089	40	5,779,006	154	21,664 510
200— 500	19	5,386,794	32	9,282,040	138	43,566,664
500— 1,000	11	7,870,214	18	13,248,905	50	35,563,388
1,000— 5,000	7	14,040,987	20	41,693,293	38	67,229,401
5,000 and over	2	18,564,221	2	15,506,245	7	71,701,277
Totals	**737**	**59,125,280**	**778**	**100,744,401**	**1,624**	**270,851,669**

Size of Establishments as Measured by Number of Employees.—In Tables 28 and 29 the establishments reporting to the Census of Manufactures are classified by the number of their employees. In the comparative Table 28, it is shown that out of a total increase of 131,913 employees in our manufacturing industries between 1923 and 1928, 64,306, or almost 49 p.c., were in establishments with over 500 employees.

28.—Number of Establishments and of Employees in Canadian Manufactures, Grouped According to the Number of Employees per Establishment, 1923 and 1928.

Group.	1923.			1928.		
	Establishments.	Employees.	Average Employed.	Establishments.	Employees.	Average Employed.
	No.	No.	No.	No.	No.	No.
Fewer than 5 employees.....	13,156	23,632	1·7	12,373	23,227	1·8
5 to 20 employees.......	5,310	53,852	10·1	6,021	60,825	10·1
21 “ 50 “	2,093	67,408	32·2	2,457	79,289	32·2
51 “ 100 “	1,031	73,449	71·2	1,204	85,402	70·9
101 “ 200 “	566	79,737	140·8	720	100,962	140·2
201 “ 500 “	374	115,585	309·0	430	131,565	305·9
501 and over...............	112	112,447	1,004·0	174	176,753	1,015·8
Totals.........	**22,642**	**526,110**	**23·2**	**23,379**	**658,023**	**28·1**

29.—Number of Establishments and of Employees in Canadian Manufactures, by Provinces, and Average Number of Employees per Establishment, 1928.

Province.	Under 5 Employees.	5–20.	21–50.	51–100.	101–200.	201–500.	501 and over.	Total.
Prince Edward Island—								
Establishments...............	164	90	21	2	-	-	-	277
Employees....................	304	974	637	120	-	-	-	2,035
Average per establishment.....	1·8	10·9	30·3	60·0	-	-	-	7·3
Nova Scotia—								
Establishments...............	544	421	138	42	9	10	3	1,167
Employees....................	1,025	4,289	4,212	2,939	1,280	3,146	2,331	19,222
Average per establishment.....	1·8	10·1	30·5	69·9	142·2	314·6	77·7	16·4
New Brunswick—								
Establishments...............	363	268	103	30	15	12	3	794
Employees....................	810	2,775	3,349	2,103	2,212	3,985	2,729	17,963
Average per establishment	2·2	10·3	32·5	70·1	147·4	332·1	909·6	22·6
Quebec—								
Establishments...............	4,362	1,504	654	325	185	132	69	7,231
Employees....................	7,869	15,441	20,891	23,089	25,305	41,453	70,911	204,959
Average per establishment.....	1·8	10·2	31·9	71·04	136·7	314·0	1,027·6	28·3
Ontario—								
Establishments...............	4,815	2,714	1,101	583	383	215	89	9,900
Employees....................	8,317	27,156	35,868	41,438	53,610	64,909	89,431	320,729
Average per establishment.....	1·7	10·0	32·5	71·0	139·9	301·9	1,004·8	32·3
Manitoba—								
Establishments...............	412	244	110	59	23	19	4	871
Employees....................	788	2,579	3,624	3,953	3,491	5,482	5,249	25,166
Average per establishment.....	1·9	10·5	32·9	67·9	151·7	288·5	1,312·2	28·8
Saskatchewan—								
Establishments...............	556	116	43	12	6	4	-	737
Employees....................	838	1,065	1,524	833	892	1,021	-	6,173
Average per establishment.....	1·5	9·1	35·4	69·4	148·6	255·2	-	8·3
Alberta—								
Establishments...............	476	184	55	32	22	8	1	778
Employees....................	924	1,650	1,791	2,266	2,869	2,728	599	12,827
Average per establishment.....	1·9	8·9	32·5	70·8	130·4	341·0	599·0	16·4
British Columbia—								
Establishments...............	681	480	232	119	77	30	5	1,624
Employees....................	1,952	5,096	7,493	8,761	11,303	8,841	5,503	48,949
Average per establishment.....	2·8	10·6	32·2	73·6	146·7	294·7	1,100·6	30·1

Subsection 5.—Power and Fuel.

Power.—The power equipment installed in manufacturing establishments is a very good barometer of the industrial development of Canada, inasmuch as the production is dependent on the power equipment. Increases and decreases in productive capacity, measured in horse-power, are not the result of temporary fluctuations in costs and values in the same manner as capital investments, values of products, etc. Power equipment will not reflect temporary depressions, but over a period of several years will indicate industrial growth or decline.

Central electric stations, which generate electricity for both lighting and power purposes, are included in Table **30** with the other groups of industries and are included also with the industries of each province. The note with Table **30** explains the duplications in power equipment involved where other manufacturing plants are operated by power purchased from central electric stations. Internal combustion engines include all gasolene engines, natural, coal and producer gas engines, and diesel and semi-diesel or other engines which produce power by burning the fuel in the cylinder.

Comparisons with the data for 1927 show an increase of 558,664 h.p. or 9·8 p.c. in 1928 in the total primary power equipment installed in manufacturing establishments, by far the largest increase being in the central electric stations, where the increase was 468,504 h.p., there being a decrease in primary power installation in some of the other groups due to the replacement of steam equipment by electrical equipment operated by purchased power. The water-power development of central electric stations increased by 470,519 h.p., while the steam power installed was slightly reduced. In the provinces with large water-power developments the greatest total primary power increases were made, Quebec leading with an increase of 311,262 h.p., Ontario coming second with an increase of 97,375 h.p., British Columbia third with an increase of 74,144 h.p. and Manitoba fourth with an increase of 55,185 h.p. In the utilization of hydraulic power Quebec exceeded Ontario for the first time in 1925. In 1928, Quebec exceeded Ontario or any other province in the total of installed primary power from all sources.

The rapid increase in the development of power in Canada and in its utilization in manufacturing industries is illustrated by the summary figures for the years 1921 to 1928 in Table **30.** The total primary power increased by 3,102,798 h.p. or 99 p.c. in the 7 years, while the total installation of electric motors increased 1,582,478 h.p. or 156 p.c. in the same time.

30.—Totals, for Canada, of Power Installed in the Manufacturing Industries, 1921-1928, with Details by Provinces and Groups of Industries for 1928.

NOTE.—Total power equipment employed (Col. 8) is the sum of total primary power (Col. 4) and electric motors operated by purchased power (Col. 5). Since the power purchased (Col. 5) is generated by primary equipment already included in Col. 4, there is a duplication by the amounts of Col. 5 in the total power equipment figures of Col. 8 as applied to the totals for Canada and for each of the provinces. In the case of each of the groups of industries, however, since this purchased power is practically all generated by central electric stations, there is no duplication in the figures of total power equipment employed (Col. 8). The net growth in the power developed in Canada is shown in Col. 4 for the years 1921 to 1928.

Province and Group.	Primary Power.				Electric Motors.			Total Power Equipment Employed. Col. 8.
	Steam Engines and Turbines. Col. 1.	Internal Combustion Engines. Col. 2.	Hydraulic Turbines and Water Wheels. Col. 3.	Total Primary Power. Col. 4.	Operated by Purchased Power. Col. 5.	Operated by Power Generated by Establishments. Col. 6.	Total Electric Motors. Col. 7.	
	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.
Totals, 1921...	**764,725**	**53,567**	**2,318,865**	**3,137,157**	-	-	**1,014,216**	-
Totals, 1922...	**833,756**	**87,022**	**2,691,084**	**3,611,862**	-	-	**1,162,649**	-
Totals, 1923...	**827,870**	**64,020**	**2,869,738**	**3,761,628**	**958,692**	**357,136**	**1,315,828**	**4,720,320**
Totals, 1924...	**944,267**	**72,491**	**3,283,146**	**4,299,904**	**1,256,183**	**398,001**	**1,654,184**	**5,556,087**
Totals, 1925...	**992,916**	**77,435**	**4,012,756**	**5,083,107**	**1,547,754**	**434,678**	**1,982,432**	**6,630,861**
Totals, 1926...	**1,018,535**	**78,554**	**4,213,013**	**5,310,102**	**1,770,334**	**392,322**	**2,162,656**	**7,080,436**
Totals, 1927...	**1,038,931**	**79,753**	**4,562,607**	**5,681,291**	**1,924,687**	**386,555**	**2,311,242**	**7,605,978**
Totals, 1928...	**1,053,307**	**83,864**	**5,102,784**	**6,239,955**	**2,139,129**	**457,565**	**2,596,694**	**8,379,084**
PROVINCE, 1928.								
P. E. Island.......	4,014	909	1,858	6,781	438	355	793	7,219
Nova Scotia.......	113,523	3,769	62,658	179,950	27,978	40,404	68,382	207,928
New Brunswick...	56,672	4,148	54,914	115,734	35,755	22,221	57,976	151,489
Quebec............	205,163	7,329	2,326,154	2,538,646	942,663	112,185	1,054,848	3,481,309
Ontario............	311,403	36,195	1,819,906	2,167,504	842,675	179,037	1,021,712	3,010,179
Manitoba..........	44,821	2,245	310,955	358,021	84,608	491	85,099	442,629
Saskatchewan.....	71,118	14,033	-	85,151	14,844	143	14,987	99,995
Alberta............	91,323	5,585	33,537	130,445	28,757	5,052	33,809	159,202
British Columbia.	155,270	9,651	492,802	657,723	161,411	97,677	259,088	819,134
GROUP OF INDUSTRIES, 1928.								
Vegetable products	56,567	11,599	38,863	107,029	202,582	25,189	227,771	309,611
Animal products...	25,937	5,373	1,634	32,944	71,222	3,222	74,444	104,166
Textiles...........	27,251	1,377	31,342	59,970	103,809	26,298	130,107	163,779
Wood and paper...	410,315	14,006	495,615	919,936	988,802	281,819	1,270,621	1,908,738
Iron and its products............	144,747	21,557	8,048	174,352	314,169	71,714	385,883	488,521
Non-ferrous metals	19,570	276	68,960	88,806	205,836	29,590	235,426	294,642
Non-metallic minerals.............	30,053	3,836	4,426	38,315	143,351	16,273	159,624	181,666
Chemicals.........	15,155	321	8,345	23,821	47,580	3,410	50,990	71,401
Miscellaneous industries.........	7,401	461	20	7,882	61,778	50	61,828	69,660
Central electric stations.........	316,311	25,058	4,445,531	4,786,900	-	-	-	4,786,900

Fuel.—The fuel used in industrial establishments in 1928 included 6,639,736 tons of bituminous coal, valued at $37,871,736, constituting 63·3 p.c. of the total fuel cost. The other chief fuels in order of value were:—fuel oil, comprising 12·2 p.c., gas (principally natural gas) 9·1 p.c., wood 4·1 p.c., anthracite coal 3·5 p.c. and coke 3·0 p.c. Out of a fuel account of nearly $60,000,000, Ontario expended $28,800,000 or 48·2 p.c. of the total. The manufacturing concerns of Quebec expended $17,300,000, those of British Columbia $3,500,000 and those of Nova Scotia nearly $3,000,000.

The groups of industry in which fuel was most extensively used in 1928 were:—wood and paper, $14,428,000; non-metallic minerals, $12,861,000; iron and steel, $10,647,000; and vegetable products, $6,794,000. Fuel is used quite generally throughout the industrial field for the generation of power by means of internal combustion and steam engines. The principal industries where fuel is used as a material that enters into the actual composition of the product are the manufactures of coke and gas. The most important industries where heat is applied directly to materials to transform them or to facilitate their manipulation are foundries and machine shops, blast-furnaces and steel mills, smelting plants, brick-, tile-, lime- and cement-making, petroleum-refining and the glass industry.

The total annual expenditure on fuel increased by $8,120,355 or 15·7 p.c. in the 7 years from 1921 to 1928, covered by the summary figures in Table **31.** The fuels which have shown the greatest proportionate increases are gas and oil.

31.—Total Fuel Used in the Manufacturing Industries of Canada, 1921-1928, with Details by Provinces and Groups, 1928.

Province and Group.	Bituminous Coal.		Anthracite Coal.	Coke.	Oil.	Wood.	Gas.	Total.[1]
	Quantity.	Value.						
	tons.	$	$	$	$	$	$	$
Totals, 1921...	**4,103,071**	**34,752,681**	**2,915,752**	**2,497,400**	**5,417,800**	–	–	**51,640,912**
Totals, 1922...	**4,101,463**	**29,914,585**	**3,616,185**	**3,299,016**	**5,649,071**	**2,085,444**	**1,616,802**	**48,920,505**
Totals, 1923...	**5,338,446**	**38,283,135**	**4,614,239**	**3,238,257**	**6,241,692**	**2,514,157**	**1,904,058**	**58,736,938**
Totals, 1924...	**5,518,255**	**34,438,554**	**4,642,654**	**2,250,232**	**5,780,752**	**2,595,064**	**4,711,186**	**57,068,214**
Totals, 1925...	**5,902,197**	**34,034,531**	**2,564,489**	**5,045,239**	**7,246,961**	**2,700,979**	**3,570,189**	**57,818,701**
Totals, 1926...	**6,409,227**	**36,723,359**	**2,266,935**	**4,176,584**	**7,371,769**	**2,645,505**	**4,233,072**	**59,695,997**
Totals, 1927...	**6,470,803**	**36,053,827**	**2,435,720**	**3,890,378**	**7,220,529**	**2,492,495**	**5,272,735**	**60,106,218**
Totals, 1928...	**6,639,736**	**37,871,736**	**2,070,989**	**1,819,347**	**7,300,552**	**2,439,104**	**5,434,805**	**59,761,267**
PROVINCE, 1928.								
P. E. Island.......	12,898	77,017	469	3,382	15,960	11,397	–	110,817
Nova Scotia.......	323,429	1,625,179	19,911	78,731	557,010	63,779	574,779	2,974,941
New Brunswick...	263,701	1,390,493	16,419	26,590	66,181	172,784	17,127	1,700,741
Quebec............	2,032,340	12,322,547	1,088,796	260,345	2,037,177	547,082	506,113	17,320,310
Ontario............	3,354,934	18,947,358	842,999	1,229,808	2,648,947	983,603	3,605,246	28,791,474
Manitoba..........	135,393	957,037	71,016	56,010	280,265	249,956	80,076	2,069,449
Saskatchewan.....	73,783	486,328	18,722	40,258	346,454	66,624	154,601	1,781,992
Alberta............	152,192	522,008	2,065	37,935	106,085	34,451	400,972	1,544,523
British Columbia and Yukon......	291,066	1,543,769	10,592	86,288	1,242,473	309,428	95,891	3,467,020
GROUP OF INDUSTRIES, 1928.								
Vegetable products	714,217	3,828,829	408,242	376,539	694,021	490,263	610,977	6,793,577
Animal products...	348,320	2,142,241	77,153	42,985	214,350	307,921	65,554	3,362,773
Textiles...........	481,309	3,057,773	194,644	48,395	88,131	47,994	86,193	3,684,772
Wood and paper...	1,948,105	11,529,818	931,448	20,858	831,927	720,901	153,119	14,428,373
Iron and steel......	1,072,154	5,472,360	233,802	507,323	2,000,966	65,704	2,017,061	10,647,270
Non-ferrous metals	313,396	1,931,544	66,901	150,908	848,694	62,280	150,343	3,246,564
Non-metallic minerals............	1,231,626	6,991,152	81,028	572,268	2,103,678	645,931	2,255,258	12,861,215
Chemicals.........	283,636	1,537,411	46,020	56,228	70,651	14,227	24,819	1,832,453
Miscellaneous industries.........	60,878	407,497	23,830	30,339	88,348	8,747	39,180	623,865
Central electric stations..........	186,095	973,111	7,921	13,504	359,786	75,136	32,301	2,280,405

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[1] Includes other kinds of fuel which, in 1928, were as follows: lignite coal, $1,572,452; gasolene, $448,616; other fuels, $803.666.

Section 5.—Manufacturing Industries in Cities and Towns.

The prosperity of most of the cities and towns of Canada, especially in the East, is intimately connected with their manufacturing industries, which provide employment for a large proportion of their gainfully employed population. In the West, the cities are more largely distributing centres, though manufactures are rapidly increasing there also.

Table **32**, indicating the extent to which the manufacturing industries of Canada are concentrated in urban centres, shows by provinces the proportion of the gross manufacturing production which is produced in cities and towns having a gross production of over $1,000,000 each. In the more highly industrialized provinces of Ontario and Quebec such cities and towns account for over 80 p.c. of the total, while in British Columbia and Prince Edward Island, where sawmilling, fish-packing, and dairying are leading industries, the proportion falls to less than 55 p.c. In the Prairie Provinces manufacturing is largely confined to a few large urban centres.

The seven chief manufacturing cities of Canada in 1928, in the order named, were Toronto, Montreal, Hamilton, Winnipeg, Vancouver, Oshawa and Ottawa, with a gross production of over $60,000,000 each. Statistics showing the trend of production in these cities, during the last 8 years for which the figures are available, are given in Table **33.**

According to the census of 1921, Hamilton is proportionately the most largely dependent of these cities upon manufacturing industries. About 45 p.c. of its gainfully employed population was employed in manufacturing industries, as compared with 30 p.c. in Montreal and Toronto, 17 p.c. in Winnipeg and Vancouver and 13 p.c. in Ottawa.

Nineteen other important cities with a gross production of manufactured goods of between $60,000,000 and $20,000,000 each in 1928 were as follows, in descending order of the value of their products:—Kitchener, London, Three Rivers, Quebec, Ford City, Calgary, Niagara Falls, Windsor, Peterborough, Shawinigan Falls, Brantford, New Toronto, Sarnia, Sault Ste. Marie, St. Boniface, Walkerville, Edmonton, Saint John and Lachine. Statistics of the manufactures of all cities and towns with a gross production of $200,000 and over and with three or more manufacturing establishments are given for 1928 in Table **34.**

32.—Cities and Towns with a Gross Manufacturing Production of over $1,000,000 each, Number of Establishments and Total Gross Production in such Cities and Towns as a Percentage of the Grand Total, by Provinces, 1928.

Province.	Cities and Towns with a Gross Production of over $1,000,000 each.	Establishments Reporting in Cities and Towns Producing over $1,000,000 each.	Total Production in Cities and Towns Producing over $1,000,000. each.	Total Production in each Province.	Production in Cities and Towns as a Percentage of Total Production in each Province.
	No.	No.	$	$	p.c.
Prince Edward Island	1	31	1,900,992	4,445,160	42·76
Nova Scotia	9	274	67,263,193	84,948,608	79·18
New Brunswick	10	274	49,290,263	67,413,742	73·12
Quebec	50	2,916	902,400,061	1,073,162,291	84·09
Ontario	123	6,138	1,775,342,136	1,949,724,119	91·05
Manitoba	7	594	148,016,537	159,435,094	92·83
Saskatchewan	4	173	50,540,384	59,125,280	85·48
Alberta	4	316	82,232,905	100,744,401	81·62
British Columbia	14	963	145,169,694	270,851,669	53·60
Canada	**222**	**11,679**	**3,222,156,165**	**3,769,850,364**	**85·47**

33.—Principal Statistics of the Manufacturing Industries of the Seven Leading Manufacturing Cities of Canada, 1921-1928.

City.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Montreal 1921	1,326	437,159,896	74,320	81,709,683	212,796,716	413,475,166
1922	1,468	456,898,909	79,996	83,973,965	200,918,219	406,846,230
1923	1,451	473,624,425	85,603	93,943,718	226,198,441	459,254,656
1924	1,560	469,354,640	86,648	94,725,516	224,134,382	444,852,084
1925	1,666	523,125,905	91,624	99,755,986	235,304,377	467,055,393
1926	1,729	542,412,908	95,904	109,147,450	275,322,256	555,269,114
1927	1,823	552,788,702	98,353	113,797,512	259,104,230	540,267,591
1928	1,835	539,509,046	102,533	120,544,401	273,015,114	568.227.703
Toronto 1921	1,706	370,426,285	66,708	84,147,050	192,588,233	371,090,034
1922	1,811	392,469,184	78,833	92,930,846	205,568,765	394,065,052
1923	1,933	389,772,678	82,267	97,417,033	210,786,422	409,829,557
1924	1,928	410,244,068	80,001	96,554,310	213,493,889	401,367,127
1925	1,957	429,165,022	82,728	100,769,782	246,399,340	447,098,824
1926	2,013	451,233,965	86,439	107,734,568	270,290,114	489,522,114
1927	2,092	475,475,308	92,238	115,556,907	270,275,071	520,066,313
1928	2,221	505,207,658	100,034	125,579,599	293,830,796	565,444,323
Hamilton 1921	399	142,006,725	28,192	28,062,403	53,074,110	109,803,883
1922	437	143,168,098	23,476	26,256,146	50,844,910	100,280,131
1923	436	170,378,119	25.797	31,399,136	77,140,899	141,097,732
1924	427	170,993,755	23,772	28,513,251	56,884,010	118,591,000
1925	414	166,284,301	23,629	27,987,009	62,110,974	122,305,950
1926	417	172,345,587	27,087	33,244,170	74,066,846	146,037,029
1927	422	179,328,754	29,210	36,984,470	72,757,263	152,107,454
1928	426	201,584,803	30,787	40,276,968	79,114,898	166,262,355
Winnipeg 1921	419	67,354,844	11,046	15,521,375	39,701,665	75,180,039
1922	436	46,251,208	10,679	13,858,116	36,766,668	66,925,392
1923	425	70,872,528	11,596	14,782,426	38,172,282	70,647,027
1924	411	87,489,506	11,934	15,395,262	40,837,275	74,755,670
1925	409	89,688,323	14,346	18,390,797	42,388,504	79,614,829
1926	446	96,801,995	15,469	20,086,607	46,501,703	87,686,243
1927	476	108,717,326	16,785	21,215,664	48,986,976	95,592,864
1928	491	115,678,092	18,340	23,994,480	35,275,785	105,456,065
Vancouver 1921	441	72,065,459	10,438	12,446,231	35,287,999	65,035,973
1922	485	75,030,953	10,598	10,579,482	35,507,418	63,172,964
1923	507	80,053,568	11,400	13,815,995	40,518,790	71,221,905
1924	498	93,699,451	13,417	16,920,959	43,691,647	77,860,759
1925	507	102,105,028	13,334	16,384,973	42,020,970	75,823,721
1926	523	106,624,727	14,781	18,347,299	46,120,382	84,831,423
1927	556	116,754,996	14,897	19,254,035	47,290,240	87,754,347
1928	620	123,029,880	16,013	20,263,435	49,597,035	94,131,608
Oshawa 1921	28	17,444,828	2,896	3,418,396	18,990,616	27,801,398
1922	34	20,658,430	4,052	4,883,478	28,535,248	40,131,834
1923	34	23,978,144	5,019	6,223,833	33,338,313	43,876,305
1924	35	21,311,534	4,554	5,301,282	25,996,264	37,918,669
1925	34	21,832,973	4,987	6,269,918	30,345,887	47,529,284
1926	33	23,935,711	5,611	7,391,465	34,447,446	54,571,595
1927	35	31,883,066	6,846	10,127,271	50,763,745	77,631,290
1928	37	38,643,526	8,715	12,992,374	56,182,896	84,894,222
Ottawa 1921	181	38,184,743	5,841	7,254,469	27,854,285	41,949,894
1922	203	38,530,758	6,667	7,742,794	34,581,220	49,202,686
1923	197	43,513,709	7,058	8,454,415	25,706,305	40,965,955
1924	204	48,347,550	7,379	8,435,969	15,905,187	30,826,930
1925	192	48,777,659	7,110	8,554,138	15,932,660	31,303,494
1926	207	52,310,095	7,593	9,028,482	43,589,670	59,491,881
1927	201	56,466,275	7,858	9,373,881	45,764,916	63,118,092
1928	195	58,207,109	8,387	10,217,593	43,468,453	61,612,832

34.—Statistics of Manufactures of Municipalities with a Gross Production of $200,000 or over, and with Three or more Establishments, 1928.

City or Town.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Prince Edward Island—						
Charlottetown	31	1,844,302	427	421,571	991,338	1,900,992
Summerside	14	417,227	104	81,115	136,284	309,613
Nova Scotia—						
Sydney	34	45,147,202	2,444	3,536,158	8,282,402	19,570,385
Dartmouth	15	15,901,328	893	1,195,851	12,059,653	17,630,681
Halifax	105	31,207,610	3,860	4,084,844	5,078,402	14,403,319
Trenton	3	8,926,265	745	1,033,309	2,486,559	4,150,608
Truro	24	4,616,924	843	696,697	1,871,073	3,520,013
Amherst	24	4,750,561	682	628,195	1,237,182	2,747,080
Yarmouth	29	2,861,621	539	479,881	1,230,254	2,448,884
New Glasgow	27	2,100,587	477	466,860	590,503	1,613,743
Windsor	13	2,211,890	299	190,090	636,347	1,178,480
Canso	4	320,915	219	166,051	471,839	837,914
Pictou	12	466,232	285	140,126	381,105	647,157
Bridgewater	20	825,704	211	127,812	392,954	603,138
Lunenburg	14	678,199	224	180,297	262,371	569,352
Stellarton	10	695,673	61	64,016	154,900	508,196
Digby	7	354,468	67	52,334	200,787	490,687
Middleton	8	359,228	52	51,548	340,440	451,148
Port Hawkesbury	4	728,284	101	85,785	227,019	407,456
North Sydney	13	292,621	118	99,729	188,884	392,094
Lockport	5	352,460	125	68,999	241,192	386,307
Clark's Harbour	8	62,800	61	26,631	285,427	341,128
Liverpool	9	2,995,244	165	105,292	153,171	308.834
Shelburne	17	264,564	121	95,933	140,239	301,738
Oxford	10	313,968	105	84,091	157,384	292,788
Glace Bay	7	260,239	51	56,644	34,608	249,939
Bridgetown	9	310,055	108	67,968	141,596	247,110
New Brunswick—						
Saint John	126	28,518,719	3,516	3,590,646	15,137,643	23,187,287
Moncton	39	7,727,660	2,351	2,760,036	4,166,096	8,052,280
Edmundston	10	10,145,382	496	558,049	1,447,518	3,552,310
St. Stephen	18	2,692,137	730	686,953	1,939,703	3,439,593
Bathurst	13	11,474,661	552	664,987	1,579,627	3,367,911
Fredericton	28	3,601,820	620	598,956	1,016,632	2,088,618
Campbellton	14	3,343,830	557	444,040	1,253,098	2,002,136
Milltown	3	2,160,635	745	566,425	797,676	1,432,765
Sackville	11	1,537,235	442	436,991	348,594	1,108,707
Newcastle	12	2,917,651	234	174,839	804,810	1,058,656
Chatham	11	3,401,785	223	229,766	502,610	874,370
Sussex	11	437,063	132	130,557	382,418	738,530
Grand Falls	9	409,010	122	104,940	261,864	380,401
Woodstock	19	482,439	117	99,435	96,693	280,044
Port Elgin	7	151,902	105	44,472	112,482	202,414
Quebec—						
Montreal	1,834	481,181,947	101,668	119,226,844	273,015,114	554,311,571
Three Rivers	55	79,061,136	7,634	8,258,527	19,209,953	45,441,169
Quebec	251	69,857,968	10,243	9,747,565	17,505,822	44,608,105
Shawinigan Falls	21	149,846,124	2,938	4,076,874	13,489,984	33,536,961
Lachine	29	25,427,082	2,893	4,792,210	7,514,290	20,736,693
Montreal East	4	26,511,718	1,719	2,528,304	9,494,444	19,427,957
Sherbrooke	76	22,339,310	4,677	4,708,027	9,227,636	19,009,741
Hull	41	13,077,202	2,655	2,655,575	5,847,020	11,705,232
Granby	26	9,724,593	2,763	2,352,651	4,439,105	11,317,276
Valleyfield	25	10,929,551	2,773	2,148,236	3,831,697	9,783,246
Magog	13	6,496,232	1,575	1,300,253	6,481,584	9,042,865
Port Alfred	4	37,722,732	889	1,313,502	4,251,599	8,986,835
St. Hyacinthe	50	8,761,102	2,561	1,899,563	5,155,927	8,905,609
Grand'Mère	15	64,890,988	1,307	1,965,962	2,298,567	7,976,144
St. John	38	8,039,430	2,750	2,828,236	3,621,671	7,726,715
St. Jérôme	26	6,349,083	1,853	1,555,746	2,886,997	7,610,937
Drummondville	14	18,643,679	2,056	1,890,516	4,063,184	6,892,209
Kenogami	3	16,279,477	954	1,429,172	2,563,276	6,875,573
East Angus	7	15,299,951	854	844,017	2,816,076	5,263,575
La Tuque	11	8,674,704	657	1,005,118	2,031,977	4,662,724
Belœil	9	3,976,687	260	295,983	2,141,691	4,104,734
Lauzon	8	2,705,002	523	587,603	1,064,295	3,626,217

34.—Statistics of Manufactures of Municipalities with a Gross Production of $200,000 or over, and with Three or more Establishments, 1928—continued.

City or Town.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Quebec—concluded.						
Victoriaville	21	2,384,709	1,208	933,553	1,332,407	3,496,502
Verdun	11	3,760,844	851	831,433	1,591,160	3,432,840
St. Joseph d'Alma	7	14,824,888	473	713,575	786,131	3,072,211
Beauharnois	9	5,880,029	581	618,489	1,190,445	2,777,788
Donnacona	3	11,533,207	503	743,596	1,302,057	2,741,145
Chicoutimi	25	9,772,595	605	628,248	1,339,155	2,540,647
Bromptonville	4	506,769	312	331,827	1,335,793	2,260,010
Joliette	37	1,896,530	579	477,688	920,179	2,124,825
Windsor	7	6,002,789	503	570,010	924,338	2,077,919
Coaticook	21	2,300,029	713	461,289	1,088,941	2,010,792
Sorel	20	2,953,834	1,320	1,013,164	493,160	1,892,437
Cowansville	10	2,344,059	569	450,953	767,141	1,840,802
Chandler	3	3,092,960	463	470,899	748,698	1,756,841
Buckingham	14	2,894,127	321	423,022	859,262	1,676,968
Berthier	14	6,344,772	259	240,216	638,219	1,645,217
Marieville	11	1,686,662	487	414,792	988,804	1,444,381
Jonquière	8	1,454,483	205	300,194	587,114	1,360,913
Loretteville	21	1,153,020	467	332,225	763,846	1,271,078
Portneuf	9	1,691,628	197	219,232	651,740	1,256,571
Rock Island	13	2,085,434	349	324,812	598,730	1,243,349
Asbestos	10	1,212,834	163	184,660	631,640	1,203,708
Laprairie	9	7,257,674	422	454,298	56,147	1,196,461
St. Rémi	10	685,376	132	105,605	923,247	1,193,137
St. Laurent	4	1,226,317	298	382,094	404,060	1,125,696
Plessisville	16	1,134,027	359	267,512	577,469	1,101,787
Ste. Thérèse	11	1,177,544	271	226,429	493,920	1,052,353
Farnham	13	1,084,172	368	227,654	541,298	1,037,962
Montmagny	15	1,934,247	426	348,804	393,944	1,015,633
Longueuil	10	3,667,339	319	424,094	808,767	944,388
Cap de la Madeleine	6	250,492	78	47,514	667,130	902,088
Rimouski	9	2,952,154	299	310,255	464,659	868,877
Bedford	4	931,425	410	315,075	83,330	800,099
Louiseville	7	489,215	310	179,563	528,966	772,261
St. Raymond	61	963,449	217	152,080	361,921	734,464
Rivière du Loup	17	1,953,059	299	293,149	246,231	691,036
Lac au Saumon	4	2,222,083	216	107,569	340,137	686,421
Westmount	6	1,462,759	227	279,723	75,223	672,771
Terrebonne	12	1,168,912	284	230,986	337,215	668,252
Lennoxville	8	578,267	109	128,973	370,431	663,634
Acton Vale	9	421,489	351	150,475	287,569	630,390
Thurso	6	886,629	132	143,090	429,666	609,947
Pont Rouge	8	816,952	156	141,650	320,048	604,365
Levis	16	785,366	264	197,923	208,587	568,080
Contrecœur	5	300,888	188	144,149	329,667	547,249
Warwick	10	526,898	171	134,126	305,128	521,750
Calumet	3	604,820	129	116,226	397,499	513,683
Murray Bay	10	56,992	64	39,652	384,710	493,741
Outremont	3	482,597	112	128,266	304,143	492,709
Disraeli	7	1,898,342	179	178,876	141,730	475,860
Iberville	7	261,453	181	221,962	113,457	445,113
Danville	10	573,697	147	113,483	216,036	410,814
Waterloo	9	397,879	182	118,444	164,493	381,833
Ste. Marie	13	181,873	136	58,226	261,115	377,835
Megantic	7	552,990	114	96,307	179,018	373,489
Gaspé	3	952,244	99	41,486	313,010	352,597
Nicolet	10	304,875	128	87,476	176,910	347,522
Shawville	9	77,994	29	21,538	276,380	346,590
Beebe Plain	5	160,496	76	63,026	194,525	329,122
Amos	7	426,416	112	105,229	136,462	327,133
Sutton	11	285,876	81	59,093	158,059	312,651
Huntingdon	9	151,116	41	36,940	206,087	309,115
Bagotville	3	326,800	10	9,916	16,996	293,704
Mont Laurier	8	379,326	39	34,963	215,369	290,685
Beauceville	9	230,766	96	64,233	131,805	268,851
St. Pie	11	140,353	66	39,581	196,178	261,709
St. Tite	11	130,683	92	56,865	163,070	258,928
St. Lambert	6	373,858	118	108,277	64,316	256,097
L'Assomption	6	304,621	94	62,542	158,745	252,824
Roberval	14	231,037	104	66,960	138,749	240,052
Lachute	8	523,639	101	77,233	86,525	237,965
Thetford Mines	14	385,663	104	88,548	93,939	224,127
Macamic	5	216,611	104	54,798	113,811	223,070
Trois Pistoles	8	64,414	56	34,590	181,856	215,356

34.—Statistics of Manufactures of Municipalities with a Gross Production of $200,000 or over, and with Three or more Establishments, 1928—continued.

City or Town.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Ontario—						
Toronto	2,221	505,207,658	100,034	125,579,599	293,830,796	565,444,323
Hamilton	426	201,584,803	30,787	40,276,968	79,114,898	166,262,355
Oshawa	37	38,643,526	8,715	12,992,374	56,182,896	84,894,222
Ottawa	195	58,207,109	8,387	10,217,593	43,468,453	61,612,832
Kitchener	137	40,852,417	8,759	9,688,167	24,508,047	50,117,175
London	227	45,123,339	9,716	11,425,574	20,878,152	48,337,680
Ford City	10	45,139,262	7,051	13,590,633	26,807,710	44,293,223
Niagara Falls	61	41,931,035	3,113	4,420,295	18,498,194	38,729,880
Windsor	143	29,275,221	4,211	6,845,057	20,489,496	37,639,930
Peterborough	79	24,795,223	5,349	5,712,694	20,844,956	36,124,040
Brantford	101	60,061,627	7,714	8,600,204	16,439,312	32,273,886
New Toronto	12	23,263,688	3,357	4,736,182	19,766,829	31,114,973
Sarnia	41	21,274,999	2,507	3,788,580	17,917,152	27,123,165
Sault Ste. Marie	46	63,677,529	2,483	4,430,913	12,266,859	26,980,517
Walkerville	55	30,800,940	3,116	5,150,993	13,149,690	25,050,109
Welland	41	27,274,192	2,892	3,419,779	10,443,339	19,901,087
Port Colborne	16	10,891,290	752	1,048,924	16,971,662	19,894,201
Guelph	92	18,270,653	4,515	4,804,929	9,542,111	19,595,669
St. Catharines	100	19,746,301	3,965	4,663,401	7,699,563	17,584,863
Leaside	7	16,554,423	1,361	2,302,186	11,350,055	16,017,743
Galt	79	17,291,666	3,932	4,329,550	7,212,355	15,135,908
Chatham	52	14,689,267	2,371	2,902,256	8,673,311	14,568,023
Keewatin	3	6,696,954	364	482,804	12,874,723	14,540,450
Cornwall	43	22,268,591	4,233	3,968,273	6,273,735	14,353,376
Stratford	62	10,932,925	3,249	3,870,933	6,947,049	13,300,646
Thorold	16	25,813,140	1,456	2,289,750	5,089,092	13,072,881
Woodstock	60	12,877,185	2.863	3,019,814	6,516,122	12,250,714
Iroquois Falls	3	28,541,009	1,035	2,000,939	2,142.590	10,139,984
Brockville	33	7,137,127	972	1,031,566	7,428,380	9,983,856
Kenora	16	15,850,168	670	807,072	5,960,433	9,441,470
Wallaceburg	20	8,202,594	979	1,308,493	6,390,989	9,338,742
Fort William	36	29,232,205	1,089	1,201,109	4,746,311	8,574,384
Waterloo	34	11,285,286	1,504	1,693,740	3,596,130	7,928,589
Fort Frances	14	14,325,393	968	1,239,231	3,193,361	7,780.200
Port Arthur	20	17,959,029	1,360	1,867,022	2,325,283	7,285,839
Preston	33	6,787,066	1,633	1,870.778	3,232,398	6,725,901
Fergus	13	1,352,262	646	749,588	2,497,173	6,723,388
Belleville	53	9,857,805	1,371	1,424,341	1,862,661	6,289,735
Kingston	60	14,451,763	1,455	1,692,387	3,423,623	6,221,074
Owen Sound	53	7,064,013	1,822	1,733,978	2.747,326	5,812,280
Goderich	20	2,250,686	341	339,623	4,317,270	5,372,029
St. Thomas	46	4,088,079	1,145	1,127,900	3,030,095	5,305,064
Leamington	15	2,728,754	485	491,900	2,176,005	4,943,442
Simcoe	36	4,079,572	761	610,983	2,751,673	4,719,969
Huntsville	13	4,180,390	452	427,289	3,256,994	4,677,867
Hawkesbury	13	6,954,198	849	957,900	2,365,128	4,606,395
Paris	20	5,024,135	1,125	1,081,812	2,123,958	4,215,741
Hespeler	15	5,375,714	1,058	1,110,144	2,053,432	4,109,518
St. Marys	22	4,973,963	499	594,756	2,106,984	4,097,910
Bowmanville	19	4,608,370	675	647,472	1,860,218	4,069,339
Kapuskasing	6	30,144,894	886	1,290,870	1,530,920	4,047,719
Midland	19	4,210,535	608	663,072	2,658,391	3,968,378
Pembroke	36	5,510,263	1,131	759,552	2.040,552	3,904,038
Weston	13	4,346,507	885	1,066,870	1,615,344	3,764,866
Newmarket	18	2,284,581	640	690,083	1,614,996	3,715,826
Renfrew	20	4,291,847	672	745,995	1,947,835	3,672,518
Elmira	14	2,330,117	659	674,549	1,392,273	3,655,480
Ingersoll	26	3,790,792	694	801,750	1,807,934	3,543,410
Chippawa	3	906,681	189	284,787	653.828	3,498,054
Sandwich	11	4,602,101	838	1,249,663	752,727	3,484,125
Cardinal	8	3,209,475	273	382,807	2.500,897	3,478,429
Orillia	38	5,354,318	1,123	1,112,461	1,598,039	3,317,887
Acton	14	3,077,049	451	408,054	2,299,953	3,284,594
Bridgeburg	23	2,971,856	524	637,841	1,474,620	3,254,990
Petrolia	15	1,982,520	184	240,798	1,861,145	3,071,001
Brampton	21	2,414,491	897	872,988	1,362,331	3,052,789
Perth	23	3,726,893	698	795,629	1,189,067	2,976,078
Dundas	21	4,363,888	749	967,279	1,372,436	2,909,262
Merritton	8	4,164,085	482	711,319	1,179,369	2,900,245
Bracebridge	20	3,129,733	422	335,804	1,998,875	2,849,068
Oakville	19	1,643,927	423	481,301	1,670,530	2,841,663
Gananoque	24	2,995,976	635	723,356	1,255,147	2,763,802
Hanover	15	3,082,798	675	704,112	1,270,343	2,654,300

34.—Statistics of Manufactures of Municipalities with a Gross Production of $200,000 or over, and with Three or more Establishments, 1928—continued.

City or Town.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Ontario—continued.						
Aurora	7	1,183,262	417	399,081	1,702,026	2,544,130
Tilsonburg	23	1,962,101	499	455,471	1,678,091	2,539,371
Georgetown	19	2,735,850	559	511,610	1,446,031	2,459,203
Sudbury	26	4,442,397	388	460,844	1,090,742	2,399,956
Port Hope	30	3,600,872	665	879,701	765,611	2,384,062
Blind River	7	6,707,419	377	471,089	1,604,102	2,334,045
Cobourg	25	2,650,434	418	433,420	1,131,534	2,330,646
Lindsay	35	2,748,682	450	460,511	1,284,105	2,320,825
Amherstburg	9	10,128,834	239	376,116	313,590	2,277,049
Smith's Falls	21	3,919,497	687	768,225	1,149,012	2,238,994
Aylmer	9	1,877,278	198	192,888	1,303,467	2,118,317
Barrie	19	1,673,350	325	372,181	1,398,987	2,082,557
Carleton Place	19	2,331,893	598	570,440	955,679	2,054,141
Dunnville	20	2,308,480	634	641,709	1,037,174	2,037,224
Port Credit	4	2,277,701	193	229,722	1,328,063	2,022,997
Trenton	27	2,960,316	564	477,020	972,468	2,002,782
Arnprior	16	4,125,332	518	581,295	1,147,542	1,977,759
Napanee	20	1,382,703	319	321,377	1,066,669	1,917,149
Port Dalhousie	5	1,215,217	486	468,196	516,019	1,906,522
Chesterville	8	942,583	157	207,661	1,254,932	1,873,710
Cobalt	8	15,917,457	212	368,367	64,638	1,863,018
Timmins	16	12,657,601	141	178,008	79,344	1,776,259
Tilbury	9	795,042	337	424,150	832,988	1,773,356
Listowel	19	851,547	360	351,226	894,768	1,642,942
Dryden	7	5,095,469	322	407,127	585,357	1,620,628
Campbellford	28	2,008,915	355	326,652	955,427	1,612,267
Caledonia	10	965,785	221	256,454	740,167	1,610,884
Kincardine	12	1,672,585	427	404,020	665,029	1,493,207
Almonte	17	1,554,096	491	400,669	814,401	1,491,934
Meaford	16	1,448,340	330	304,984	1,008,614	1,478,754
Strathroy	16	1,459,759	314	299,800	825,411	1,456,858
Tavistock	13	499,248	182	150,260	1,126,715	1,437,779
Milton	17	3,020,191	359	414,272	482,919	1,432,058
North Bay	23	1,510,091	303	347,459	739,021	1,413,206
Sturgeon Falls	9	210,647	327	449,419	789,177	1,389,862
Ayr	7	887,612	104	106,789	655,153	1,358,772
Wingham	17	946,765	266	272,168	769,643	1,309,804
Collingwood	23	4,667,642	325	355,864	650,934	1,280,331
Picton	27	1,271,826	282	161,750	724,592	1,264,473
Chesley	12	973,953	356	343,818	498,415	1,238,164
New Liskeard	17	1,501,780	280	338,390	611,743	1,232,879
Elora	9	946,739	308	324,012	384,233	1,172,601
Frankford	10	2,342,382	210	154,546	669,495	1,159,757
Woodbridge	5	725,936	149	168,192	838,975	1,146,845
Cache Bay	3	875,927	189	199,496	753,041	1,137,190
Walkerton	21	1,598,373	324	294,643	594,564	1,115,016
Grimsby	14	959,677	362	268,502	541,762	1,083,697
Penetanguishene	14	1,374,174	348	353,007	413,390	1,071,766
Prescott	16	1,059,766	271	221,824	474,055	1,035,310
New Hamburg	12	985,719	252	226,823	568,722	1,002,759
Clinton	17	722,489	209	183,578	522,944	989,194
Milverton	9	423,181	84	73,688	703,355	958,276
Norwich	17	484,536	121	111,514	691,221	953,360
Alexandria	17	564,994	171	142,119	539,970	939,610
Kingsville	13	1,138,098	183	132,956	636,793	861,095
Mount Forest	17	666,182	198	145,433	512,236	820,651
Bloomfield	10	944,437	170	74,751	471,313	809,377
Whitby	8	790,588	223	245,759	433,349	808,355
Humberstone	7	605,562	163	162,391	453,675	762,981
Durham	9	500,432	215	188,582	396,386	737,893
Southampton	8	923.720	240	230,383	373,942	713,727
Waterford	9	619,788	163	85,524	475,108	708,201
Riverside	3	873,998	57	89,115	213,959	704,461
Mitchell	15	739,436	133	123,445	403,650	660,165
West Lorne	7	607,283	98	78,334	481,416	639,749
Orangeville	12	672,635	155	114,509	399,335	629,323
Brighton	17	815,119	233	69,720	308,695	615,070
Delhi	8	648,227	74	61,541	400,379	606,286
Port Elgin	10	604,073	167	170,406	282,829	604,644
Dresden	14	556,347	150	124,352	325,117	599,087
Gravenhurst	8	1,058,350	190	185,434	293,108	595,415
Lucknow	15	380,307	84	70,386	385,385	574,671
Burlington	6	708,572	134	124,789	331,178	573,348

34.—Statistics of Manufactures of Municipalities with a Gross Production of $200,000 or over, and with Three or more Establishments, 1928—continued.

City or Town.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Ontario—concluded.						
Exeter	13	618,218	118	66,760	359,021	570,989
Jarvis	6	165,958	23	28,869	419,129	546,990
Wiarton	14	476,497	122	87,344	274,273	545,654
Seaforth	14	332,927	101	83,240	285,891	542,257
Lakefield	13	864,953	216	246,630	194,171	541,590
Tweed	14	328,185	130	120,729	306,244	541,049
Burk's Falls	7	490,727	138	133,261	321,301	529,166
Harriston	11	527,670	139	97,803	323,618	528,069
Coppercliff	3	5,541,873	27	41,521	12,821	502,825
Wellington	8	658,800	130	55,250	258,921	502,412
Mimico	8	1,066,916	111	140,475	18,440	498,646
Essex	9	519,425	106	82,792	228,894	493,897
Teeswater	11	331,719	63	52,396	302,908	492,623
Forest	11	517,197	110	79,931	276,260	482,287
Hagersville	6	98,698	16	14,561	390,867	480,326
Stirling	13	101,411	52	35,984	372,859	457,903
Streetsville	8	179,133	79	92,282	248,332	452,389
Sioux Lookout	7	426,304	67	59,526	135,007	446,921
Dutton	11	145,793	45	33,587	342,564	438,281
Deseronto	10	416,411	102	68,718	221,100	437,787
South River	7	450,118	198	109,462	218,212	427,576
Waterdown	7	537,085	92	156,316	79,384	423,398
Casselman	10	281,833	91	55,743	315,979	400,116
Palmerston	7	150,172	24	24,487	313,117	397,275
Ridgetown	17	482,982	84	53,025	209,455	363,226
Port Dover	10	406,877	69	46,574	213,252	333,349
Haileybury	5	1,013,919	78	96,400	157,929	332,309
Winchester	12	111,689	41	27,500	253,310	320,356
Shelburne	6	115,858	23	20,725	251,231	319,890
Bancroft	10	165,688	113	37,977	200,677	319,465
Kemptville	10	292,945	77	58,455	152,177	318,847
Bradford	7	232,542	73	66,610	194,324	311,246
Paisley	10	114,939	24	21,714	236,162	310,240
Alliston	11	196,035	34	29,331	202,468	296,336
Vankleek Hill	14	174,120	67	21,892	219,629	287,908
Port Perry	12	188,713	37	28,788	201,686	279,488
Drayton	8	65,388	15	12,876	219,117	273,514
Finch	5	70,337	21	19,296	234,600	273,043
Eganville	12	334,822	76	50,050	168,489	265,812
Watford	8	402,473	62	56,791	169,597	264,915
Merrickville	11	352,977	104	79,621	145,794	264,234
Iroquois	11	481,490	51	53,383	137,393	263,836
Parry Sound	15	510,638	99	48,712	106,259	248,063
Norwood	13	210,381	48	26,372	183,053	247,707
Grand Valley	7	52,624	19	14,215	202,090	244,170
Arthur	5	57,861	11	9,860	187,989	238,197
Brussels	6	51,795	14	10,178	194,891	237,608
Parkhill	9	164,527	37	23,196	154,912	226,197
Bolton	7	92,617	19	14,715	171,918	222,611
Stouffville	7	109,334	21	18,515	159,159	221,464
Morrisburg	12	238,514	77	57,502	100,304	220,616
Cobden	8	84,213	23	16,431	156,361	219,443
Tara	6	63,333	14	10,976	168,976	215,446
Stayner	8	85,550	25	16,141	167,595	213,629
Thessalon	9	332,991	98	78,026	145,689	210,868
Sutton	4	91,932	19	18,084	150,039	208,275
Uxbridge	11	142,636	26	20,675	135,080	206,968
Beamsville	10	115,852	58	46,823	112,869	206,704
Hensall	10	113,646	43	24,019	131,356	202,098
Neustadt	5	54.549	13	7,292	160,547	201,208
Manitoba—						
Winnipeg	491	115,678,092	18,340	23,994,480	35,275,785	105,456,065
St. Boniface	35	8,107,117	1,557	1,936,112	19,516,408	26,965,037
Transcona	3	7,025,759	2,168	3,168,181	2,281,729	5,737,255
Brandon	37	4,109,956	455	608,814	2,377,276	3,799,039
Portage La Prairie	14	753,084	222	248,305	1,931,807	2,685,983
Selkirk	7	2,025,820	422	563,429	566,898	1,916,428
The Pas	7	1,425,208	332	388,527	552,802	1,456,730
Dauphin	13	442,473	70	71,699	254,937	457,629
Neepawa	4	203,206	29	35,684	205,275	289,361
Shoal Lake	4	84,495	18	17,455	191,582	245,369
Rapid City	3	28,090	7	12,083	193,383	232,402

34.—Statistics of Manufactures of Municipalities with a Gross Production of $200,000 or over, and with Three or more Establishments, 1928—concluded.

City or Town.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	$	No.	$	$	$
Saskatchewan—						
Regina	70	14,633,807	1,810	2,711,296	10,338,339	19,483,586
Moose Jaw	28	6,885,158	879	1,268,872	10,580,977	14,473,385
Saskatoon	56	9,199,323	1,303	1,880,486	7,026,455	13,117,818
Prince Albert	19	2,214,089	399	482,367	2,127,410	3,465,595
North Battleford	11	590,740	93	129,594	285,475	668,137
Estevan	8	848,109	118	119,280	322,829	664,388
Swift Current	13	745,183	69	107,419	206,068	567,463
Yorkton	9	367,617	44	54,878	281,840	460,993
Weyburn	11	507,874	54	67,874	174,352	420,940
Melville	3	112,350	14	19,099	246,455	288,978
Alberta—						
Calgary	146	32,269,048	4,209	5,782,865	24,800,582	42,418,079
Edmonton	125	21,237,175	4,229	5,071,978	14,391,653	24,924,826
Medicine Hat	22	5,848,213	747	862,818	7,624,739	10,136,277
Lethbridge	23	3,815,336	377	552,139	1,638,091	4,753,723
Redcliffe	6	1,791,349	269	308,164	253,751	984,339
Raymond	3	2,093,165	81	122,626	371,510	604,785
Wetaskiwin	9	331,119	37	46,750	290,076	430,358
Camrose	9	312,711	39	59,261	190,102	357,013
Red Deer	9	229,860	32	43,380	193,411	344,063
Drumheller	5	1,536,749	95	223,109	20,691	295,519
Ponoka	7	67,981	14	16,535	168,623	237,942
Vegreville	7	119,660	20	29,527	163,534	227,448
Stettler	6	103,567	117	22,096	154,110	207,807
British Columbia—						
Vancouver	620	123,029,880	16,013	20,263,435	49,597,035	94,131,608
New Westminster	53	13,726,438	2,316	2,857,847	8,218,153	14,717,644
Victoria	140	18,836,174	3,060	3,822,926	4,861,852	13,585,956
North Vancouver	18	5,996,636	958	1,387,317	2,141,067	4,261,296
Prince Rupert	20	4,519,647	345	587,962	2,200,631	3,337,809
Duncan	12	742,646	470	618,060	1,162,681	2,195,633
Rossland	8	7,904,315	477	759,216	13,120	2,146,772
Port Alberni	8	1,221,513	364	453,556	1,048,511	1,989,326
Port Moody	5	1,542,872	332	438,244	948,321	1,820,362
Nelson	25	1,880,621	360	467,398	492,903	1,707,264
Nanaimo	27	1,324,808	540	435,957	820,821	1,605,514
Kelowna	17	898,715	307	270,048	683,401	1,289,338
Fernie	6	6,404,359	183	254,959	457,246	1,242,096
Port Coquitlam	4	565,303	150	209,014	560,727	1,139,085
Vernon	15	782,686	117	121,472	305,405	659,150
Kamloops	15	934,083	163	165,164	205,042	571,057
Merritt	6	320,613	113	165,206	233,919	494,296
Cranbrook	8	278,804	30	52,033	73,228	263,800
Prince George	6	167,111	109	155,710	92,286	256,001
Courtenay	8	202,362	56	56,783	134,824	238,432

CHAPTER XV.—CONSTRUCTION.

Construction is the most conspicuous example of a great industry carried on in almost complete dependence on a local demand. The building industry is not only the most widespread in its operation; it is one which expands most rapidly in good times, when it attracts great numbers of general and casual workmen—a characteristic which explains the high rate of unemployment from which the industry periodically suffers. Again, apart from the effect of cyclical fluctuations of general business conditions, the construction industry is decidedly seasonal, although new types of construction and mechanical improvements are making it possible to work more steadily on all branches of construction the year round. Conditions in the industry are being transformed on account of the increasing substitution of reinforced concrete for wood and brick construction. Nevertheless in the winter there is a serious contraction, especially in outside operations, while in the other seasons the contractors employ a much larger number of men, casually engaged, than can be retained throughout the year. A considerable number of the men are in no sense skilled artisans and the supply of unskilled men is generally in excess of the demand.

Relation of Construction Industry to General Business Conditions.—Statistics showing activity in construction are of particular interest both to those engaged in the industry itself and to those concerned with the supplying of its raw materials, such as lumber, steel, cement, paint, glass and hardware. All of these latter industries are prosperous when the construction industry is active, and depressed when it is at a standstill; again, the effects of their activity and depression are felt throughout the whole field of industry, so that the current conditions in the construction industry react powerfully upon the whole economic life of the nation. Thus, in the period between 1909 and 1913, construction, mainly financed with borrowed money, contributed in large measure to produce the "boom" of those years.

During the war period the industry was at a low ebb, except for the construction of munition plants, but after the war the housing shortage was a serious problem, and considerable building was undertaken in spite of the high cost of materials and skilled labour, as shown in Table 4. The urgent requirements due to the practical suspension of the industry during the war were fully met in the post-war years, but the peak of the prosperity cycle in 1929 is reflected in the highest value of construction contracts on record, aggregating $576,651,800, exceeding 1928 by no less than $104,619,200, and the former peak year, 1912, by $113,568,800. In 1930, the total value of construction contracts awarded declined to $456,999,600, which was $119,652,200 or 20·7 p.c. less than in 1929. (See Table 2.)

Construction in Transportation and Public Utility Industries.—The expenditure for construction by the transportation and public utility systems is incorporated in their general maintenance and structural accounts. The maintenance of way and structures account of the steam railways in 1929 totalled $94,021,972 as compared with $97,763,472 in 1928, while investments in the road bed and equipment of new lines in 1929 totalled $38,111,226 and in additions and betterments on old lines, $106,926,685. There were 504 miles of new lines opened for operation during 1929, 672·3 miles completed but not opened for traffic and 552·7 miles under construction. Total track mileage in 1929 was 55,868 as compared with 55,455 in 1928, a net increase of 413 miles. The expenditure of electric railways on maintenance of way and structures account increased slightly from $4,444,335 in 1928 to $4,560,916 in 1929. There was a net increase of $9,416,397 during 1929 in the capital investment of electric railways.

As for the telephone systems of Canada, the pole line mileage increased from 207,566 in 1928 to 220,525 in 1929, and the wire mileage from 3,982,867 to 4,476,213 in the same period. The property and equipment account was $263,201,651 in 1928 and $291,589,148 in 1929.

The pole line mileage of the telegraph systems decreased from 53,777 in 1928 to 52,835 in 1929 owing to the elimination of duplicating lines, while the wire mileage increased from 337,971 to 360,883. The telegraph and cable companies reported new construction valued at $3,050,123 and alterations and repair work costing $1,796,632, or a total expenditure for construction of $4,846,755 for the year.

Contracts Awarded.—A record of contracts awarded during the years 1911-30, as compared by MacLean Building Reports, Ltd., is given in Table **1.** The aggregate for 1930, while 20·7 p.c. less than for the record year 1929, and slightly less than the previous maxima established in 1928 and 1912, still showed construction operations at a high level considering the disturbed economic situation. When immigration was exceptionally great in 1912, an extensive building program was necessary to care for the rapidly growing population, while railway construction was also very active. In 1928, the increase was largely accounted for by residential building and industrial contracts were considerably ahead of 1927. Although residential construction declined in 1929, the tremendous increase in engineering construction and the significant advances in building for business purposes combined to make the record total. While construction operations of all types declined in 1930 when compared with 1929, the declines were most pronounced in the industrial, residential and business types, whereas engineering construction continued very active and was nearly double that of any year prior to 1929, as may be seen from Table **2.**

1.—Summary of the Value of Construction Contracts Awarded in Canada, 1911-1930, as Compiled by MacLean Building Reports, Ltd.

Year.	Value of Construction Contracts.	Year.	Value of Construction Contracts.
	$		$
1911	345,425,000	1921	240,133,300
1912	463,083,000	1922	331,843,800
1913	384,157,000	1923	314,254,300
1914	241,952,000	1924	276,261,100
1915	83,916,000	1925	297,973,000
1916	99,311,000	1926	372,947,900
1917	84,841,000	1927	418,951,600
1918	99,812,000	1928	472,032,600
1919	190,028,000	1929	576,651,800
1920	255,605,000	1930	456,999,600

2.—Construction Contracts Awarded in Canada, 1925-1930, by Provinces and Types of Construction, as Compiled by MacLean Building Reports, Ltd.

Distribution.	1925.	1926.	1927.	1928.	1929.	1930.
PROVINCE.	$	$	$	$	$	$
Prince Edward Island	345,600	374,500	421,100	559,000	627,300	1,120,500
Nova Scotia	4,154,800	3,444,800	5,469,300	27,784,000	12,744,500	7,238,500
New Brunswick	4,373,300	4,593,000	3,597,200	7,825,000	6,806,500	11,067,600
Quebec	124,509,100	151,933,900	133,182,600	144,185,000	187,771,600	154,672,000
Ontario	121,248,100	141,929,400	196,159,000	188,351,700	215,773,100	175,459,600
Manitoba	13,093,200	19,186,600	29,939,900	23,995,300	38,156,500	22,010,900
Saskatchewan	4,923,100	14,251,500	11,337,600	22,127,100	34,184,300	27,361,300
Alberta	3,867,500	10,058,400	7,507,300	17,909,700	29,159,600	25,081,700
British Columbia	21,458,300	27,175,800	31,337,600	39,295,800	51,428,400	32,987,500
Totals	**297,973,000**	**372,947,900**	**418,951,600**	**472,032,600**	**576,651,800**	**456,999,600**
TYPE OF CONSTRUCTION.						
Apartments	12,723,600	20,979,300	25,981,800	36,720,500	22,527,200	15,330,300
Residences	83,766,300	88,583,100	98,957,800	102,445,800	106,374,100	77,961,200
Totals, Residential	**96,489,900**	**109,562,400**	**124,939,600**	**139,166,300**	**128,901,300**	**93,291,500**
Churches	8,646,900	9,942,600	12,052,700	8,327,500	8,867,800	7,265,600
Public garages	4,409,100	4,820,500	7,354,700	10,889,100	12,915,100	7,049,700
Hospitals	5,352,500	6,460,100	8,897,200	9,596,300	8,983,700	14,636,200
Hotels and clubs	4,598,400	19,979,400	30,598,700	15,486,400	20,110,500	13,806,700
Office buildings	9,335,700	11,957,600	40,752,900	34,120,900	37,465,100	26,529,600
Public buildings	6,736,600	4,546,400	8,195,200	8,744,700	19,062,600	16,804,600
Schools	13,231,900	17,110,700	22,244,000	20,907,400	22,482,800	35,079,800
Stores	13,511,200	12,640,200	11,831,900	27,448,000	27,353,900	10,006,100
Theatres	723,000	2,432,700	1,519,500	3,085,000	3,074,800	2,356,100
Warehouses	6,521,800	22,518,700	19,982,000	31,621,300	29,835,400	17,569,300
Totals, Business	**73,067,100**	**112,408,900**	**163,428,800**	**170,226,600**	**190,161,700**	**151,103,700**
Totals, Industrial	**40,007,300**	**79,689,700**	**39,988,900**	**63,300,000**	**62,968,800**	**31,520,000**
Bridges	17,804,400	6,681,700	23,468,900	7,360,200	11,218,500	11,333,700
Dams and wharves	4,768,800	7,374,500	6,565,300	8,297,900	24,721,300	10,281,600
Sewers and water-mains	8,102,100	7,889,300	9,624,700	10,455,800	17,552,200	28,680,800
Roads and streets	26,992,100	24,379,900	24,382,800	29,412,500	41,690,800	40,490,200
General engineering	30,741,300	24,961,500	26,552,600	43,812,400	99,437,200	90,298,100
Totals, Engineering	**88,408,700**	**71,286,900**	**90,594,300**	**99,338,800**	**194,620,000**	**181,084,400**

Building Permits.—The estimated value of construction in 61 cities of Canada, as indicated by their building permits, is shown for the years 1925 to 1930 inclusive in Table 3. These cities had in 1921 about 32·6 p.c. of the population of Canada, while their 1930 building permits aggregated $166,379,325 or 36 p.c. of the total contracts awarded, as shown in Table 1. In Table 3 the 35 cities for which statistics of building permits are available since 1910 are indicated by an asterisk (*), and the totals for these cities are given beneath the totals for the larger group.

Table 4 shows the value of the building permits issued by 35 cities in the years 1910-1930. The average weighted index numbers of wholesale prices of building materials since 1913 are also given, as are the average indexes of wages in the building trades since 1910, the latter being compiled by the Department of Labour, and the former by the Dominion Bureau of Statistics. These indexes are introduced to show as far as possible the fluctuations in building costs with their effect upon construction work. Attempts have been made to determine the relative proportion of material and wage costs in general building, but representative data could not be obtained.

Owing to the increasing use of the automobile and other means of rapid transportation, a growing percentage of those who work in the cities reside outside the municipal boundaries. Hence arises, in part, the necessity for an extension of the record of building permits to include such suburban areas as the York Townships in the case of Toronto, and North and South Vancouver. South Vancouver and Point Grey were annexed to Vancouver city as from Jan. 1, 1929.

The construction contracts in 1930 as shown in Table **2** decreased by 20·7 p.c., whereas the building permits of 61 cities in Table **3** decreased 29·2 p.c. The more favourable showing of construction contracts was due in large measure to the high level of activity in engineering construction, which is covered only to a very limited extent by building permits. In fact, an unusually large proportion of the construction carried on during 1930 consisted of hydro-electric undertakings, the building of highways, bridges, sewers, waterworks, etc.

3.—Value of Building Permits Taken Out in 61 Cities for the calendar years 1925-1930.

NOTE.—Asterisks indicate the 35 original cities, statistics for which are available since 1910.

Province and City.	1925.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$	$
P.E.I., Charlottetown	**21,800**	**29,000**	[1]	[1]	**20,000**	**158,000**
Nova Scotia	**1,099,787**	**908,945**	**1,840,647**	**3,078,176**	**5,748,282**	**3,564,302**
*Halifax	1,035,564	764,498	1,537,899	2,808,357	5,209,245	3,188,345
New Glasgow	20,286	7,870	10,850	64,515	305,370	141,250
*Sydney	43,937	136,577	291,898	205,304	233,667	234,707
New Brunswick	**986,325**	**771,421**	**1,365,065**	**1,262,266**	**2,037,934**	**3,034,614**
Fredericton	98,175	37,050	14,779	148,015	23,500	482,000
*Moncton	204,620	342,701	736,110	270,813	768,698	456,827
*Saint John	683,530	391,670	614,176	843,438	1,245,736	2,095,787
Quebec	**35,186,268**	**42,167,440**	**58,320,532**	**49,933,504**	**57,984,175**	**46,224,208**
*Montreal-Maisonneuve	25,520,523	31,720,049	45,200,842	36,347,901	46,065,924	37,504,590
*Quebec	3,274,371	3,939,281	6,360,165	5,710,144	5,684,183	4,912,257
Shawinigan Falls	384,925	315,760	347,835	1,163,581	770,618	468,540
*Sherbrooke	1,037,110	712,350	689,930	1,128,233	755,240	812,150
*Three Rivers	2,064,815	1,445,575	2,332,500	1,681,450	1,488,065	851,730
*Westmount	2,904,524	4,034,425	3,389,260	3,902,195	3,220,145	1,674,941
Ontario	**59,888,867**	**65,373,757**	**79,883,344**	**104,777,566**	**95,055,827**	**69,042,946**
Belleville	194,725	306,610	670,010	239,323	533,730	312,360
*Brantford	159,537	232,049	571,599	802,528	473,387	1,034,957
Chatham	193,858	591,650	575,087	780,020	813,560	821,258
*Fort William	727,340	1,291,250	1,209,450	2,062,000	1,759,000	1,227,300
Galt	108,723	181,185	181,023	378,581	527,315	264,901
*Guelph	426,641	344,616	493,169	462,815	607,377	371,351
*Hamilton	2,675,830	3,128,950	3,837,150	6,342,100	7,008,320	6,291,100
*Kingston	493,758	608,532	420,467	678,203	908,900	1,056,986
*Kitchener	1,546,262	1,100,111	1,272,632	1,524,625	1,645,351	1,344,232
*London	2,389,800	3,621,200	2,814,950	2,561,705	2,408,900	2,744,735
Niagara Falls	1,114,290	1,504,000	1,517,510	2,056,415	905,510	483,678
Oshawa	576,205	1,044,100	5,255,188	3,015,070	1,478,090	195,470
*Ottawa	4,942,327	3,101,748	6,446,045	5,421,085	3,403,333	6,295,275
Owen Sound	536,970	154,450	330,350	262,375	529,850	132,000
*Peterborough	272,637	342,757	624,295	625,577	618,278	797,895
*Port Arthur	402,488	961,580	3,473,736	5,292,545	555,945	995,487
*Stratford	407,731	480,915	221,254	224,412	354,849	414,410
*St. Catharines	666,962	940,642	1,147,286	1,249,141	1,432,392	610,067
*St. Thomas	350,181	138,597	92,682	362,732	172,190	180,327
Sarnia	725,698	601,646	1,064,415	814,586	1,021,962	633,899
Sault Ste. Marie	242,993	235,766	329,461	402,419	782,059	589,773
*Toronto	25,797,196	26,029,584	31,274,876	51,607,188	47,698,654	32,130,589
York Townships	6,611,440	5,558,540	6,011,635	8,210,380	9,824,273	6,240,998
Welland	124,320	401,049	400,364	309,866	301,500	196,125
*Windsor	4,333,945	7,319,454	4,930,832	4,518,723	5,571,849	2,250,130
Ford	1,104,445	1,592,058	1,054,531	758,315	561,382	424,233
Riverside	600,750	455,630	624,340	496,460	383,225	153,920
Sandwich	1,224,765	1,707,550	1,323,140	762,775	856,190	183,775
Walkerville	851,000	1,268,000	1,527,060	2,108,000	1,631,000	472,000
Woodstock	86,050	126,538	158,867	447,602	287,456	193,715

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[1] No information received.

3.—Value of Building Permits Taken Out in 61 Cities for the calendar years 1925-1930—concluded.

NOTE.—Asterisks indicate the 35 original cities, statistics for which are available since 1910.

Province and City.	1925.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$	$
Manitoba	**5,205,828**	**11,091,372**	**8,561,122**	**11,846,635**	**12,007,695**	**7,631,620**
*Brandon	76,579	227,516	230,252	428,130	404,342	197,245
St. Boniface	972,559	501,256	761,570	871,105	553,103	780,625
*Winnipeg	4,156,690	10,362,600	7,569,300	10,547,400	11,050,250	6,653,750
Saskatchewan	**2,531,380**	**6,529,041**	**7,928,574**	**13,449,826**	**16,950,228**	**9,544,287**
*Moose Jaw	243,535	268,326	1,230,489	1,074,078	1,025,474	1,058,303
*Regina	1,208,403	4,242,511	3,482,090	6,619,206	10,022,631	2,971,544
*Saskatoon	1,079,442	2,018,204	3,215,995	5,756,542	5,902,123	5,514,440
Alberta	**2,862,260**	**4,115,317**	**5,398,691**	**10,292,579**	**17,953,321**	**9,460,834**
*Calgary	1,197,475	1,999,048	2,330,131	6,302,142	11,417,144	4,054,364
*Edmonton	1,481,890	1,853,735	2,568,565	3,374,971	5,670,185	4,300,935
Lethbridge	161,189	236,359	438,684	498,590	559,392	984,830
Medicine Hat	21,706	26,175	61,311	116,876	306,600	120,705
British Columbia	**17,246,852**	**25,400,314**	**21,315,767**	**24,465,163**	**27,187,087**	**17,718,514**
Kamloops	99,105	187,269	252,488	128,761	241,247	205,235
Nanaimo	212,591	77,496	211,065	45,269	112,640	117,053
*New Westminster	704,263	748,169	1,082,114	1,928,324	1,011,629	553,990
Prince Rupert	1,337,769	187,465	252,940	176,804	93,648	148,695
*Vancouver[1]	14,077,065	22,937,602	16,669,680	19,445,288	21,572,727	14,645,206
North Vancouver	268,542	564,074	322,739	912,780	292,515	150,073
*Victoria	547,517	698,239	2,524,741	1,827,937	3,862,681	1,898,262
Totals—61 Cities	**125,029,367**	**156,386,607**	**184,613,742**	**219,105,715**	**234,944,549**	**166,379,325**
***Totals—35 Cities**	**101,021,798**	**131,048,721**	**154,904,047**	**187,269,237**	**211,228,814**	**151,324,214**

[1] South Vancouver and Point Grey were annexed to Vancouver city as from Jan. 1, 1929. Their permits in earlier years have been included in the respective Vancouver totals.

4.—Value of Building Permits Issued by 35 Cities in the calendar years 1910-1930.

Year.	Value.	Average Index Numbers of—	
		Wholesale Prices of Building Materials.	Wages in the Building Trades.
	$	(1913=100.)	
1910	100,357,546	–	86·9
1911	138,170,390	–	90·2
1912	185,233,449	–	96·0
1913	153,662,842	100·0	100·0
1914	96,780,981	93·8	100·8
1915	33,566,749	90·3	101·5
1916	39,724,466	103·8	102·4
1917	33,936,426	130·7	109·9
1918	36,838,270	150·5	125·9
1919	77,113,413	175·8	148·2
1920	100,679,839	214·9	180·9
1921	94,508,164	183·2	170·5
1922	122,655,581	162·2	162·5
1923	111,174,325	167·0	166·4
1924	105,070,284	159·1	169·7
1925	101,021,798	153·7	170·4
1926	131,048,721	149·2	172·1
1927	154,904,047	147·6	179·3
1928	187,269,237	149·3	185·6
1929	211,228,814	147·7	197·5
1930	151,324,214	135·6	203·2

CHAPTER XVI.—EXTERNAL TRADE.

This chapter commences with a historical sketch of Canadian external trade, the Canadian tariff, and recent developments in external trade, followed by a brief account of the Commercial Intelligence Service. Thereafter is to be found a treatment of statistics of external trade under ten subordinate headings:—historical statistics of Canadian trade; general analysis of current import and export trade; trade with the United Kingdom and the British Empire; trade with the United States and other foreign countries; geographical distribution of Canadian trade by continents and countries, principal commodities imported and exported; trade in raw and manufactured products; Canada's position in international trade; main historical tables and tables showing current trends (Tables **1** to **35**); and comparison of the volumes of imports and exports (Table **36**). The chapter is finally brought to a close with sections on the tourist trade of Canada, and on Canada's balance of international payments in recent years.

Section 1.—Historical Sketch of External Trade and Tariffs.

In the early history of the American continent each of the European nations establishing settlements in the New World endeavoured to monopolize the commerce of its colonies, prohibited the ships of other nations from resorting to them and prohibited its colonials from importing European goods from other countries, generally granting them, however, preferential treatment in its own market. In these circumstances the colonial wars in America were carried on by Governments permeated by the mercantile spirit, for "ships, colonies and commerce". Owing to this fact, wars resulting in the transfer of colonies from one European power to another involved great economic as well as political changes in the community so transferred. The traders who had previously controlled the trade between the mother country and its colony found their occupations gone, while new traders from the conquering state arrived to take over the import and export trade, which thereafter flowed in new channels perhaps no more artificial than those which had previously existed.

Throughout the earlier part of the French *régime* in Canada, the foreign trade of the colony was in the hands of the monopolistic chartered companies, of which the Company of One Hundred Associates was the most notable. When its monopoly was cancelled in 1663, the external trade of Canada still remained a preserve of the merchants of Old France. Upon the conquest of the country by the British, the French merchants, who had their offices in Quebec and Montreal for the most part, returned to France, and the trade of the colony fell into the hands of the traders from England, Scotland and New England, who had swarmed into the country at the heels of the invading armies. Some of their descendants are still among the leaders in Canadian import and export trade.

For the first sixty years of British rule, Canadian commerce was carried on almost exclusively with or through the United Kingdom, the merchants of New England complaining, after the American Revolution, of being shut out from the Canadian trade. The geographical juxtaposition of the United States to British

North America was, however, a factor which could not permanently be ignored, and smuggling became more and more prevalent as settlement extended westward along the International Boundary. In 1822 Great Britain made considerable concessions to United States traders in respect of the Canadian trade. In 1846 she abolished the preferential treatment which she had given to Canadian wheat, and in 1860 all vestige of preference to colonial products disappeared from the British tariff. As a consequence, the colonies which, like Canada, were by this time enjoying responsible government, could not any longer be refused the right to control their own commercial policy—a fact which was emphasized in an important report prepared in 1859 by the then Minister of Finance, (Sir) A. T. Galt, and forwarded to the British Government. This report declared that the responsibility of the Canadian Government must be to the Canadian people, more especially in matters of taxation (the greater part of the revenue being raised by customs duties), and that the Canadian Government must affirm the right of the Canadian Parliament to adjust the taxation of the people in the way it deemed best, even if this should happen to meet with the disapproval of the British Ministry. This doctrine remained unchallenged by the British Government, and, coming at a time when all important parties in Great Britain had accepted free trade as a *fait accompli,* it facilitated the setting up in Canada of a protective tariff, designed to secure the establishment in Canada of manufacturing industries, at a time when British opinion desired that the colonies should concentrate their attention on the production of food and raw materials, and import from Great Britain the manufactured commodities which they required.

The Abolition of Preference and the Reciprocity Treaty of 1854.—The abolition of the British preference on Canadian wheat in 1846 brought about a depression in the flour-milling industry of Montreal and an ephemeral agitation for union with the United States. The effects of the repeal of the preference were, however, mitigated in 1849 by the repeal of the Navigation Acts and the consequent throwing open of the carrying trade between Canada and the United Kingdom to the shipping of the world. Meanwhile, the abandonment of protection in the Mother Country led to the initiation of negotiations for a reciprocity treaty with the United States. A treaty for the free exchange of natural products between them and the British North American colonies was negotiated in 1854, and became effective on Mar. 16, 1855. From its operation the Canadian farmer and fisherman derived considerable benefit, more especially during the period of the Civil War, when prices in the United States were particularly high. Partly as a consequence of the friction between Great Britain and the United States during the Civil War period and partly because the new Canadian tariff of 1859 shut out the manufactured goods of the United States, the treaty was denounced by the United States at the end of the ten-year period for which it had been negotiated, and ceased to operate 12 months later on Mar. 17, 1866. The denunciation of the treaty had a considerable effect in bringing about the confederation of the British North American colonies, which it was hoped would to a great extent absorb each other's products.

Tariff Policy since Confederation.—The immediate effect of Confederation was to abolish the tariff barriers which existed between the provinces entering the Dominion. As the area of Canada increased until, except for Newfoundland and Labrador, it became conterminous with British North America, the area of internal free trade was thereby extended, while protection against outside competition was generally maintained. However, the protective tariff of the old province of Canada, adopted in 1859 with a prevailing rate of 20 p.c., was replaced in 1866 by a tariff assimilated to the revenue tariffs of the Maritime Provinces, with the rates of duties on the great bulk of manufactured commodities reduced from 20 and 25 p.c. to 15 p.c. Later on, the world-wide depression which commenced in 1873, and the consequent falling off in a revenue based upon trade, necessitated an increase of the general rate to 17½ p.c., with a 20 p.c. rate on certain luxuries. Even this increase failed to fill the treasury.

In 1879, after the people had declared for a protective policy in the general election of 1878, the duties on imported manufactured goods were considerably increased, the rate on goods "not otherwise provided" being raised from 17½ p.c. to 20 p.c., the rates on cotton goods from 17½ p.c. to rates, specific and *ad valorem*, equivalent, on the importations of 1881, to 30 p.c., while the duties on woollens were practically doubled. The rate on furniture and clocks was increased to 35 p.c.; on carriages, glassware, wall-paper and silks, to 30 p.c.; on boots and shoes, buttons, rubber goods and woodenware, to 25 p.c. Pig iron, previously free, now paid $2 a ton, and the duty on iron billets, bars and rods was increased from 5 p.c. to 10 and 17½ p.c., while manufactured iron and steel products and machinery were given 25 to 35 p.c. protection. Throughout the '80's the general trend of the minor revisions made in the tariff was still upwards, but in the '90's a downward tendency became manifest. In 1891 the duty on raw sugar was repealed, and in 1894 material reductions were made on agricultural implements, and minor readjustments on cottons and woollens. This period was also marked by the thorough-going extension of protection to the iron and steel industry, both by customs duties and bounties.

In the tariff revision of 1897, the duties on Indian corn, binder-twine, barbed wire, pig iron, flour, and refined sugar were reduced or abolished, while the bounties on domestic pig iron were not reduced, but in certain cases increased. But the most distinctive feature of the tariff revision of 1897 was the adoption of what was called a "reciprocal" tariff, one-eighth lower than the general. This "reciprocal" tariff was at once applied to the United Kingdom, and afterwards to New South Wales and to British India, while Belgium and Germany, in virtue of their trade treaties with Great Britain, were also admitted to the benefits of the "reciprocal" tariff, together with Argentina, Austria-Hungary, Bolivia, Colombia, Denmark, Persia, Russia, Sweden, Switzerland, Tunis and Venezuela, on account of most-favoured-nation treaties between these countries and Great Britain, also France and her colonies, in consequence of the Franco-Canadian treaty of 1893. A little later the "reciprocal" tariff was also extended to the Netherlands, Japan, Siberia, Morocco, Salvador, South African Republic, Tonga and Spain, under most-favoured-nation treaties between these countries and the United Kingdom.

The numerous concessions mentioned above were, however, of a merely temporary character, ceasing to exist in 1898 as a consequence of the denunciation by Great Britain of her most-favoured-nation treaties with Germany and Belgium. This left Canada free to confine her lower tariff rates to the United Kingdom and to sister Dominions and colonies. A British preferential tariff, consisting at first of a remission of 25 p.c. of the duty ordinarily paid (Aug. 1, 1898), and later of a remission of 33⅓ p.c. of the ordinary rate of duty (July 1, 1900), was established. This method of preference was abandoned in 1904 for a specially low rate of duty on almost all imported dutiable commodities.

Customs Tariff of 1907.—In 1907 a new customs tariff was introduced, establishing three scales of duties, British preferential (the lowest), intermediate and general, the intermediate tariff being set up as a basis for negotiation with foreign countries in the interest of Canadian trade. This tariff of 1907 is still in operation, with modifications. Under it, the British preferential tariff applied in 1930 to nearly the whole of the British Empire except Australia. With Australia, however, there is an exchange of preferences on a restricted list of goods.[1] To the British West Indies, under an agreement of June, 1920, rates of duties were granted even lower than those of the ordinary preferential tariff—in nearly all cases a remission of 50 p.c. of the duty ordinarily charged. This trade agreement of 1920 was replaced in 1925 by a more extensive one (see p. 482). The regular British preference was further increased in 1923 (13-14 Geo. V, c. 42) by a discount of 10 p.c. of the amount of duty computed under the British preferential tariff, when goods paying 15 p.c. duty or over are conveyed without transhipment from a port of a country enjoying the British preferential tariff into a sea or river port of Canada. The British preferential tariff was extended to Newfoundland by Order in Council of June 26, 1928. Prior to that time the general tariff applied to Newfoundland except that her fish were admitted free.[2]

The intermediate tariff applied in 1930 to the products of the following countries:—France with her colonies and protectorates, Belgium, Italy, and the Netherlands (all these under special treaties), Argentina, Colombia, Cuba, Denmark, Japan, Norway, Spain, Sweden, Switzerland and Venezuela (under reciprocal most-favoured-nation-clause treatment). New commercial treaties with France (including her colonies and protectorates) and Italy were approved at the 1923 session of Parliament (13-14 Geo. V, cc. 14 and 17), a commercial convention with Belgium at the 1924 session (14-15 Geo. V, c. 9), agreements with Australia, Finland and the Netherlands (including the Dutch colonies) at the 1925 session (15-16 Geo. V, cc. 30, 11 and 19), and a trade convention with Czechoslovakia at the 1928 session (18-19 Geo. V, c. 18). Under c. 52 of 1928, most-favoured-nation agreements with Estonia, Hungary, Latvia, Lithuania, Portugal, Roumania and Yugoslavia became effective in 1928. The present situation with regard to Canadian tariff arrangements with foreign countries is shown in the following table[3]:—

Country.	Treaty or Convention.	Date.
Argentine Republic	Treaty of Amity, Commerce and Navigation with Great Britain	Feb. 2, 1825.
Economic Union of Belgium and Luxembourg, Belgian colonies, possessions and mandated territory	Convention of Commerce with Canada	July 3, 1924.
Colombia	Treaty of Friendship, Commerce and Navigation with Great Britain	Feb. 16, 1866.
Cuba	Canadian Orders in Council and Cuban Decrees. Not full most-favoured-nation treatment on either side. (Canadian intermediate tariff exchanged for Cuban general, which is one-half maximum).	Nov. 22, 1927. Dec. 6, 1928. Dec. 3, 1929.

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[1] On the Australian Trade Agreement of 1925 (15-16 Geo. V, C. 30) see p. 1017 of the 1925 Year Book.

[2] A pamphlet "Empire Tariff Preferences on Canadian Goods" recently issued by the Foreign Tariffs Division of the Commercial Intelligence Service gives more detailed information on this subject.

[3] Taken from pamphlet mentioned in footnote 2.

Country.	Treaty or Convention.	Date.
Czechoslovakia	Convention of Commerce with Canada	Mar. 15, 1928.
Denmark	Treaties of Peace and Commerce with Great Britain	Feb. 13, 1660-1. July 11, 1670.
Estonia	Canadian Trade Agreements Act accepted favoured-nation provision of United Kingdom-Estonia Treaty of Commerce and Navigation, Jan. 18, 1926	June 11, 1928.
Finland	Finland Trade Agreement Act accepted most-favoured-nation terms of United Kingdom-Finland Treaty of Commerce and Navigation of Dec. 14, 1923	June 12, 1925.
France, colonies, possessions and protectorates	Convention of Commerce with Canada (French concessions do not include full most-favoured-nation treatment)	Dec. 15, 1922.
Hungary	Canadian Trade Agreements Act accepted favoured-nation provision of United Kingdom-Hungary Treaty of Commerce and Navigation of July 23, 1926	June 11, 1928.
Italy, colonies, and possessions	Convention of Commerce with Canada	Jan. 4, 1923.
Japan	Japanese Treaty Act sanctioned (with provisos) United Kingdom-Japan Treaty of Commerce and Navigation of April 3, 1911	April 10, 1913.
Latvia	Canadian Trade Agreements Act accepted most-favoured-nation provision of Great Britain-Latvia Treaty of Commerce and Navigation, June 22, 1923	June 11, 1928.
Lithuania	Canadian Trade Agreements Act accepted most-favoured-nation provision of Great Britain-Lithuania agreement respecting commercial relations, May 6, 1922	June 11, 1928.
Netherlands, Netherlands Indies, Surinam and Curaçao	Convention of Commerce with Canada	July 11, 1924.
Norway	Convention of Commerce and Navigation between Great Britain and (Sweden and) Norway	Mar. 18, 1826.
Portugal, including Madeira, Porto Santo, and Azores	Canadian Trade Agreements Act accepted most-favoured-nation provision of Great Britain-Portugal Treaty of Commerce and Navigation, Aug. 12, 1914	June 11, 1928.
Roumania[1]	Canadian Trade Agreements Act accepted most-favoured-nation provision of United Kingdom-Roumania Exchange of Notes, May 24, 1923	June 11, 1928.
Serb-Croat-Slovene Kingdom (Yugoslavia)	Canadian Trade Agreements Act accepted most-favoured-nation provision of United Kingdom-Serb-Croat-Slovene Kingdom Treaty of Commerce and Navigation, May 12, 1927	June 11, 1928.
Spain	Spanish Treaty Act sanctioned United Kingdom-Spain Treaty of Commerce and Navigation, Oct. 31, 1922 (revised April 5, 1927), also United Kingdom-Spain Agreement, June 27, 1924, regulating treatment of companies	June 11, 1928.
Sweden	Convention of Commerce and Navigation between Great Britain and Sweden (and Norway)	Mar. 18, 1826.
Switzerland	Treaty of Friendship, Commerce and Reciprocal Establishment between Great Britain and Switzerland	Sept. 6, 1855.
Venezuela	Treaty of Amity, Commerce, and Navigation between Great Britain and Colombia (of which Venezuela was then part)	April 18, 1825.

[1] In consequence of adopting a new tariff Aug. 1, 1929, Roumania began a revision of her trade treaties. The most-favoured-nation arrangement with Canada was to be terminated as from May 26, 1930, but was extended to Sept. 1, 1930. It is understood that reciprocal most-favoured-nation treatment is still practised.

Dumping Duties[1].—In the Canadian custom tariff there is also an anti-dumping clause. In 1930 the statutory provisions relative to the levying of special or dumping duty were amended. Special or dumping duty is now leviable upon goods exported to Canada of a class or kind made or produced in Canada, if the export or actual selling price to an importer in Canada is less than the fair market value of the same article when sold for home consumption in the usual and ordinary course in the country whence exported to Canada at the time of its exportation, or is less than the fair market value, or value for duty thereof, as determined or fixed under the provisions of the Customs Act, R.S.C., 1927, c. 42 (see also sections 36, 37, paragraphs "*a*" and "*e*" of 41, and section 43, Statutes of 1930, c. 2).

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[1] Revised in the Customs and Excise Division, Department of National Revenue.

It is provided that the special duty shall not exceed 50 p.c. *ad valorem* in any case and that goods of a class subject to duty under the Excise Act shall be exempt.

It is provided, however, that on importations from Australia under The Australian Trade Agreement Act, 1925, special duty shall not exceed 15 p.c. *ad valorem* in any case.

Provision is also made for levying of additional special or dumping duty not exceeding 50 p.c. when it appears that any person owning or controlling or interested in a business in Canada and also in any other country, or carrying on a business in any other country and owning, controlling or interested in a business operating in Canada is enabled thereby to import goods for further manufacture, or assembling, or for resale and disposes of such imported goods, whether in the form as imported or as further processed, assembled or manufactured, at prices below the duty paid value thereof as entered at Customs plus, if any, the cost of processing, assembling or further manufacture in Canada. The Minister may declare that goods of such class or kind were and are an importation subject to additional special or dumping duty not exceeding 50 p.c.

The Governor in Council is given power to prohibit the importation of any goods exported directly or indirectly from any country not a contracting party to the Treaty of Versailles executed at Paris, France, on the 28th June, 1919.

In the event of producers of goods, other than agricultural products, increasing prices in consequence of the imposition of any duty under the provisions of the Customs Tariff the Governor in Council is given the power to reduce or remove such duty.

Drawbacks.—Drawbacks of 99 p.c. of duties paid on imported materials are allowed by the customs laws and regulations in cases where articles manufactured from such materials are afterwards exported.

Surtax.—In 1903, the Customs Tariff Act of 1897 was amended to provide for a surtax of one-third of the duty on goods the product of any foreign country which treats imports from Canada less favourably than those from other countries. This surtax was at once applied against certain German goods, but was removed on Mar. 1, 1910, when Canada obtained the conventional rates of the German tariff on a specified list of goods. Under the Customs Tariff Act of 1914, the rate of surtax is left to be fixed in each case by the Governor in Council, but is not to exceed 20 p.c. *ad valorem.*

Under an arrangement made by the Minister of Trade and Commerce with the British Foreign Office, Canadian manufacturers, exporters and others interested in trade matters may secure information and advice from British commercial diplomatic officers and British consuls in all countries in which Canada is not represented by her own Commercial Intelligence Service.

Empire Tariff Preferences on Canadian Goods.[1]—*Great Britain*—Soon after the inauguration of the British preferential tariff by Canada, there commenced a movement for specially favourable treatment by Great Britain to "Empire" products. The feeling that Great Britain should give special treatment to such products was in evidence at the Colonial Conference of 1902 and at the Imperial Conferences of 1907 and 1911, but the British Government of 1902 was not ready for the issue, while those of 1907 and 1911 had been elected on a free trade platform. With the Great War, however, there came a change. In 1915 Great Britain imposed customs duties (the so-called "McKenna" duties) on motor cars, motorcycles, musical instruments, watches and clocks, and parts for these articles, all subject to 33⅓ p.c. *ad valorem* general tariff and two-thirds of this amount (or 22⁴⁄₉ p.c.) *ad valorem* British preferential tariff. Cinematograph films, which come under a specific rate of duty, were also affected, with a preferential rate of two-thirds of the general rate. These duties were allowed to expire on Aug. 2, 1924, but were restored on July 1, 1925. Preferential treatment has been extended to include Empire-grown raw tobacco, dried fruits, sugar and articles containing sugar, silk and artificial silk. Certain articles such as arc-lamp carbons, optical and scientific instruments, scientific glassware, wireless tubes, certain chemicals and similar goods are subject to what are called "key industry" duties when imported from foreign countries but are free from Empire countries. Lace and embroidery, cutlery, gloves, incandescent gas mantles, packing and wrapping paper, pottery, buttons and hollow-ware have been subjected to "safeguarding" duties for periods of 5 years beginning at fixed dates in each case, with a preference of about ⅓ off for Empire products. There are certain other dutiable goods with varying Empire preferences. Concessions have been granted on nearly all dutiable goods. It is to be noted that Great Britain levies import duties on a limited range of merchandise and the concessions, of course, are within the scope of the tariff.

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[1] Revised by Wm. Gilchrist, Chief, Foreign Tariffs Division, Department of Trade and Commerce. A pamphlet "Empire Tariff Preferences on Canadian Goods" recently issued by the Foreign Tariffs Division of the Commercial Intelligence Service gives more detailed information on this subject.

Other Empire Countries.—Without the formality of trade agreements, New Zealand, Southern Rhodesia, Zambesi Basin of Northern Rhodesia, Cyprus, Fiji, and Western Samoa accord preferences to practically all Canadian goods. Under the terms of the latest trade agreement between Canada and the British West Indies, Bermuda, British Guiana and British Honduras, made in 1925 but brought formally into force in 1927 for a ten-year period, Canada grants to these colonies specific preferences on sugar and other selected tropical products as well as a 50 p.c. reduction on the general tariff in return for substantial reciprocal concessions on flour, lumber, motor vehicles, machinery, etc. Preferences on Canadian goods up to 66⅔ p.c. are included in some cases. There are preferences for specified Canadian goods entering Australia as provided for in a trade agreement. The Irish Free State, Union of South Africa, Southwest Africa, Walfish Bay, Basutoland, Bechuanaland Protectorate, Swaziland, British Borneo, Mauritius, and Gibraltar (spirituous goods only), accord preferences on limited lists of goods, varying much in the different countries.

Section 2.—The Commercial Intelligence Service.[1]

The Commercial Intelligence Service, maintained by the Department of Trade and Commerce, is designed to further the interests of Canadian trade in other parts of the Empire and in foreign countries. To this end there are established throughout the world offices administered by Trade Commissioners. These Trade Commissioners make periodical reports upon trade and financial conditions, variations in markets and the current demand or opportunities for Canadian products. They also secure and forward to the Department in Ottawa specific inquiries for Canadian goods and in general exert their best efforts for the development and expansion of overseas markets.

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[1] Revised by H. W. Cheney, Secretary, Commercial Intelligence Service, Department of Trade and Commerce.

Organization at Ottawa.—Besides the overseas organization of the Commercial Intelligence Service, there is a headquarters staff at Ottawa. This is presided over by a Director, who is the head of the Service and administers and unifies the work assigned to the various Trade Commissioners. Assisting the Director are the following divisions:—Trade Inquiries—where trade reports and information on foreign markets are filed in order to answer foreign and Canadian trade inquiries; Editorial—where the Commercial Intelligence Journal is compiled; Foreign Tariffs—where all the latest tariff data are kept and tariff inquiries answered; and the division handling the Directory of Canadian Exporters—where Canadian exporters are listed, with their agents abroad, commodities handled, ratings, cables and codes used, etc., and where the Foreign Importers' Directory is kept up to date by periodical reports from the Canadian Trade Commissioners.

Also, in order to keep abreast of Canadian industrial development, each Canadian Trade Commissioner makes a periodic tour of Canada and while in this country gives first-hand information to the Canadian manufacturer regarding opportunities and conditions of trade in his territory.

Organization Abroad.—A list of the countries in which Canadian Trade Commissioners are located, showing territory covered, name, post office and cable address of the Trade Commissioner in each case, is given below:—

CANADIAN GOVERNMENT TRADE COMMISSIONERS.

NOTE. –Cable address of Trade Commissioners is "Canadian" unless otherwise stated.

Argentine Republic (Territory includes Chile and Uruguay)	E. L. McColl, B. Mitre 430, Buenos Aires (1).
Australia	D. H. Ross. Address for letters—Box 196C, G.P.O., Melbourne. Office—Safe Deposit Building, Melbourne. Commercial Agent: B. Millin, The Royal Exchange, Sydney, N.S.W.
Belgium (Territory includes Roumania, Bulgaria, Hungary)	Jean J. Guay, 98 Boulevard Adolphe Max, Brussels.
Brazil	A. S. Bleakney. Address for letters—Caixa Postal 2164, Rio de Janeiro. Office, Ed. Da "A Noite", Sala 802, Praca Maua.
British West Indies—	
Trinidad (Territory includes Barbados, Windward and Leeward Islands, British Guiana)	L. S. Glass. Address for letters—P.O. Box 125, Port of Spain.
Jamaica (Territory covers Jamaica, Hayti, the Bahamas and British Honduras)	F. W. Fraser, P.O. Box 225, Kingston. Office –Jamaica Mutual Life Insurance Building.
China	L. M. Cosgrave. Address for letters -P.O. Box 300. Office—Daily News Building, 17 The Bund, Shanghai.
Cuba (Territory includes San Domingo and Porto Rico)	James Cormack. Address for letters Apartado 1945. Office address—Calle Obrapia 35, Havana, Cuba.
Egypt (Territory includes the Sudan, Mesopotamia, Cyprus, Syria, and Persia)	Yves Lamontagne. Address for letters P.O. Box 1770, Cairo. Office –22 Shari Kasr el Nil, Cairo.
France (Territory includes French Colonies in North Africa)	Hercule Barré, 3 rue Scribe, Paris (9). Cable add., Cancomac.
Germany (Territory covers Germany—except the Rhine Valley—Czechoslovakia, Austria, Poland, Estonia, Latvia, Lithuania, and Soviet Russia)	L. D. Wilgress, Gutrufhaus, Neuerwall 10, Hamburg 36.
Greece (Territory includes Turkey)	Henri Turcot, 1 Çorai Street, Athens.

CANADIAN GOVERNMENT TRADE COMMISSIONERS—*concluded.*

NOTE.—Cable address of Trade Commissioners is "Canadian" unless otherwise stated.

Hongkong (Territory includes South China, the Philippines, British North Borneo, and Indo-China	Paul Sykes, P.O. Box 80. Office, Exchange Building, Hongkong.
India and Ceylon	R. T. Young, P.O. Box 2003, Office—8 Esplanade Mansions, Government Place East, Calcutta.
Irish Free State	J. H. English, 66 Upper O'Connell Street, Dublin.
Italy (Territory includes Spain, Portugal, Gibraltar, Canary Islands, Malta, Italian Colonies in Africa, Albania and Yugoslavia)	A. B. Muddiman, Via Manzoni Nr. 5, Milan (102).
Japan—	
Tokyo	J. A. Langley, Commercial Secretary. Address for letters—P.O. Box F101, Tokyo Central. Office—Imperial Life Assurance Building, Marunouchi, Tokyo.
Kobe	Richard Grew. Address for letters—P.O. Box 230. Office—Chamber of Commerce Building, Kobe.
Mexico (Territory includes Central American Republics)	C. Noel Wilde. Address for letters—Apartado Num. 126-bis, Mexico City. Office—Edificio Banco de Londres y Mexico, Num. 30. Cable address, Cancoma.
Netherlands (Territory includes the Rhine valley and Switzerland)	J. C. MacGillivray, Beursplein 26B, Rotterdam.
Netherlands East Indies (Territory includes Straits Settlements, Federated Malay States, and Siam)	G. R. Heasman, P.O. Box 84, Batavia, Java.
New Zealand	C. M. Croft. Address for letters—P.O. Box 33, Auckland. Office—Yorkshire House, Shortland Street, Auckland.
Norway (Territory includes Scandinavian countries and Finland)	F. H. Palmer, Jernbanetorvet 4, Oslo.
Panama (Territory includes Venezuela and Colombia)	J. A. Strong, Box No. 222, Panama City.
Peru (Territory includes Bolivia and Ecuador)	Acting Trade Commissioner, Casilla 1212, Lima. Office—Calle Coca 478.
South Africa	C. S. Bissett, P.O. Box 683. Office—Westminster House, Adderly Street, Cape Town. Cable address, Cantracom.
United Kingdom—	
London (Territory covers Home countries, South-eastern Countries, and East Anglia)	Harrison Watson, Canadian Building, Trafalgar Square, S.W. 1, England. Cable address, Sleighing, London.
London (Territory—for fresh fruit only—covers United Kingdom, Norway, Denmark, Sweden, France, Holland, Belgium, Germany, and Spain)	J. Forsyth Smith, Fruit Trade Commissioner, Walter House, Bedford Street, Strand, W.C. 2. Cable address, Canfrucom.
Liverpool (Territory covers North of England, Lincolnshire, North Midlands, and North Wales)	Harry A. Scott, Trade Commissioner, Century Bldgs., 31 North John Street.
Bristol (Territory covers West of England, South Wales, and South Midlands)	Douglas S. Cole, Sun Building, Clare Street.
Glasgow (Territory covers Scotland and Northern Ireland)	Gordon B. Johnson, 200 St. Vincent Street. Cable address, Cantracom.
United States—	
New York City (Territory covers New England, Atlantic seaboard States, Pennsylvania; also the Bermudas)	Frederic Hudd, 44 Whitehall Street. Cables, Cantracom.
Chicago (Territory covers the Middle West and the Mississippi valley)	R. S. O'Meara, Willoughby Tower, 8 S. Michigan Avenue.
San Francisco (Territory covers the Pacific Seaboard and Rocky Mountain States)	H. R. Poussette, 310 Sansome Street.

Commercial Intelligence Journal.—The Commercial Intelligence Journal, containing the reports of the Trade Commissioners and other pertinent material relating to export trade, is published weekly by the Department of Trade and Commerce in both English and French editions. The subscription price for either edition is $1 per annum in Canada and $3.50 outside of the Dominion.

Special reports dealing with various phases of Canada's export trade are also issued from time to time, as supplements to the Commercial Intelligence Journal.

Section 3.—Statistics of External Trade.[1]

NOTE.—For the correct interpretation of the statistics of external trade, it is necessary that the following definitions and explanations of the terms used should be carefully kept in mind.

Fiscal Years.—The Canadian fiscal year ended on June 30 of the years from 1868 to 1906, and on Mar. 31 of 1907 and subsequent years.

Quantities and Values.—In all the following tables of imports and exports, the quantities and values are based upon the declarations of importers (import entries) and exporters (export entries), as subsequently checked by customs officials.

Imports: Valuation.—"Imports" means "Imports entered for consumption". "Entered for consumption" does not imply that the goods have been actually consumed in Canada, but that they have passed into the possession of the importer and that duty has been paid on that portion liable for duty.

The value of imported merchandise is the fair market value or the price thereof when sold for home consumption in the principal markets of the country whence, and at the time when, the same were exported directly to Canada. The "price" and "value" of the goods in every case are stated as in condition packed ready for shipment, the fair value being shown in the currency of the country of export, and the selling price to the purchaser in Canada shown in the actual currency in which the goods were purchased. In the case of goods that are the manufactures or produce of a foreign country the currency of which is substantially depreciated, the value stated is the value that would be placed on similar goods manufactured or purchased in the United Kingdom and imported from that country, if such similar goods are made or produced there. If similar goods are not made or produced in the United Kingdom, the value stated is the value of similar goods made or produced in any European country the currency of which is not substantially depreciated.

Canadian Exports: Valuation.—"Canadian produce" exported includes Canadian products or manufactures, also exports of commodities of foreign origin which have been changed in form or enhanced in value by further manufacture in Canada, such as sugar refined in Canada from imported raw sugar, flour ground from imported wheat, and articles constructed or manufactured from imported materials. The value of exports of Canadian merchandise is the actual cost or the value at the time of exportation at the points in Canada whence originally shipped.

Foreign Exports: Valuation.—"Foreign produce" exported consists of foreign merchandise which had previously been imported (entered for home consumption). The value of such commodities is the actual cost.

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[1] Revised by W. A. Warne, Chief, External Trade Branch, Dominion Bureau of Statistics. This Branch publishes the Annual Report of the Trade of Canada, the Condensed Preliminary Report of the Trade of Canada (annual), the Quarterly Report of the Trade of Canada, the Calendar Year Report of the Trade of Canada, the Summary of the Trade of Canada (monthly), etc. For complete list of the publications of the Branch see Chapter XXVIII. Section 1, under "External Trade".

Countries to which Trade is Credited.—Imports are classified as received from the countries whence they were consigned to Canada. The countries of consignment are the countries from which the goods have come, without interruption of transit, save in the course of trans-shipment or transfer from one conveyance to another. The countries whence goods are consigned are not necessarily the countries of actual origin, since goods produced in one country may be purchased by a firm in another country and thence despatched, after a longer or shorter interval, to Canada. In such cases the second country would be the country of consignment to which the goods would be credited. An example is the case of tea grown in the Orient but purchased in the bonded market in London, England; Canadian statistics record such imports as coming from the United Kingdom.

Exports are credited to the country of final destination, *i.e.,* the country to which they are consigned, whether that country possesses a seaboard or not. The country of final destination is the country to which goods exported from Canada are intended to pass, without interruption of transit save in the course of trans-shipment or transfer from one means of conveyance to another.

Discrepancies in Trade Statistics between Canada and Other Countries.—Canadian statistics of exports are rarely in exact agreement with the import figures of her customers and similar differences occur with Canadian imports. Many factors contribute to these discrepancies; among these are the following:—

(1) Differences in the basis of the Canadian valuations and the valuations of other countries.

(2) Even where the statistics cover the same period of time, there are quantities of goods in transit at the beginning and end of the period. Such goods are included in the statistics of the exporting country but not in the statistics of the importing country.

(3) By far the greatest discrepancies occur from the impossibility of determining the country of final destination for exports or the actual country of origin for imports. Thus about 40 p.c. of Canada's exports to overseas countries are shipped *via* the United States. Some of this is credited by importing countries to the United States. Canadian grain exports, for example, are to a large extent routed through the United States in bond. Most of this grain leaves Canada with the United Kingdom as the stated destination, but large quantities are later diverted to other European or overseas countries and some is taken out of bond for consumption in the United States. Thus the Canadian record of exports to the United Kingdom may be $100,000,000 or more in excess of Canadian products actually received by the United Kingdom, while stated exports to other overseas countries are short this amount. Again, United States grain is routed through Canada and shipped from Montreal and therefore frequently shown by other countries as imported from Canada, while it is included in United States statistics as an export to Canada. As mentioned above, purchases in bonded markets in England, Germany, Belgium and France are included in Canadian imports from those countries, but are not included by those countries in exports to Canada.

For a more detailed discussion of this subject see the article and tables on "Discrepancies in Trade Statistics" on pp. 778-781 of the Annual Report on the Trade of Canada, 1928, published by the Dominion Bureau of Statistics.

Subsection 1.—Historical Statistics of Canadian Trade.

A general view of the trade of Canada in the fiscal years from 1868 to 1930 is furnished in Table **1** (p. 513), giving the imports of merchandise for home consumption, dutiable and free, and the exports of Canadian and foreign produce, the total trade as here given being the aggregate of the two. Necessarily, some difficulties have been met in maintaining comparable statistics through such a length of time, one of the most serious of these arising through different methods adopted in dealing with exports of foreign produce. For example, the shrinkage in the exports of foreign produce after 1920 has been due to change of statistical method rather than to actual diminution in value or volume of such goods exported. For the past ten years, re-exports of foreign products from bonded warehouses have no longer been included in Canadian trade statistics either as imports or as exports, while the exports of foreign produce during this period have been composed of goods which had previously been entered as imports for home consumption. Such goods are debited to Canada when entering this country, and should be credited to Canada when re-exported.

From Table **2** it will be observed that in most of the years from Confederation to the outbreak of the Great War, imports entered for consumption exceeded total exports, especially during the great growing period from 1904 to 1914. From 1915 to 1929, except in the fiscal year ended Mar. 31, 1921, there was an annual excess of total exports over imports entered for consumption. In the fiscal year ended Mar. 31, 1930, however, there was an excess of imports.

The percentage of exports to imports rose to a peak of 164·62 in 1918, owing to the exportation of war supplies, then dropped to 97·60 in 1921, rose again to 143·28 in 1926 and has since declined to 109·72 in 1929 and 91·72 in 1930.

The values of coin and bullion imported and exported are shown in Table **3.** Amounts collected in export duties from 1868 to 1892, and in import duties from 1868 to 1930, together with the cost of collection expressed as a percentage of the total duties, are stated by years in Table **4.** Tables **5** and **6** show respectively our exports of Canadian produce and our imports for home consumption, furnishing figures of our trade with the United Kingdom, United States and other countries since 1868. These figures show the overwhelming predominance of the two great English-speaking countries in our foreign trade; in the fiscal year ended Mar. 31, 1930, for example, 71·2 p.c. of our exports of domestic produce was shipped to these two countries, which, in the same year, together provided 83·1 p.c. of our imports for home consumption. Tables **7** and **8** show respectively by years the percentage proportions of imports from the United Kingdom and the United States to totals of dutiable and free imports since 1907, and the *ad valorem* rates of duty collected on imports from these and from all countries from 1868 to 1930.

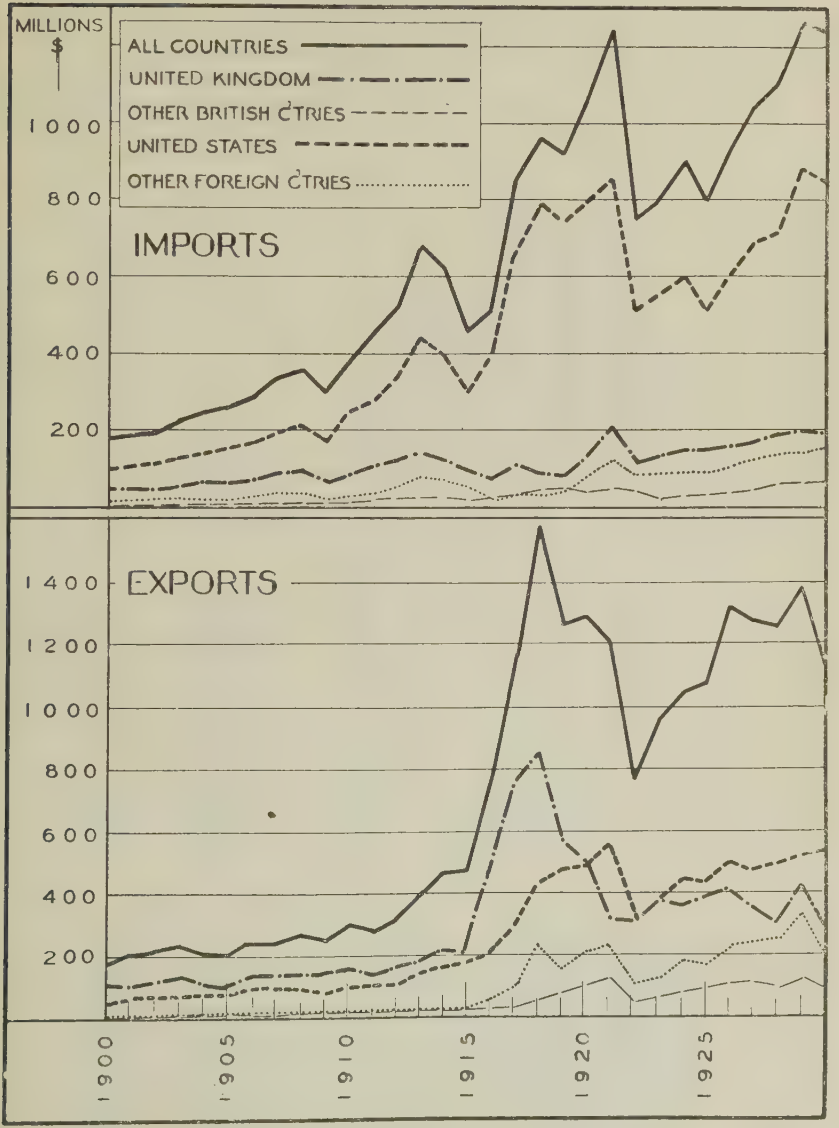
Importations of important raw materials used in Canadian manufacturing industries are given in Table **9** for the fiscal years ended 1911 to 1930.

The statistics in the following table indicate the trend of Canadian trade by main groups in 1914 (pre-war year), 1921 (peak year of post-war inflation) and 1930, (a) with all countries; (b) with the United Kingdom; and (c) with the United States.

SUMMARY OF THE TRADE OF CANADA BY MAIN GROUPS, FISCAL YEARS ENDED MAR. 31, 1914, 1921 AND 1930.

Group.	Values of Imports (Million $).			Values of Exports (Canadian) (Million $).			Percentages of 1930—			
							Imports to—		Exports to—	
	1914.	1921.	1930.	1914.	1921.	1930.	1914.	1921.	1914.	1921.
(a) WITH ALL COUNTRIES.										
Agricultural and Vegetable Products	97·6	259·4	227·1	201·2	482·1	384·6	232·7	87·5	191·1	79·8
Animals and Products	41·1	61·7	69·9	76·6	188·4	133·0	170·1	113·3	173·6	70·6
Fibres and Textiles	109·2	243·6	185·2	1·9	18·8	9·1	169·6	76·0	478·8	48·4
Wood and Paper	37·4	57·5	61·0	63·2	284·6	289·6	163·1	106·1	458·2	101·7
Iron and Its Products	143·8	245·6	316·9	15·5	76·5	78·6	220·4	129·0	507·1	102·7
Non-Ferrous Metals	35·6	55·7	87·9	53·3	45·9	154·3	246·9	157·8	289·5	336·1
Non-Metallic Minerals	85·3	206·1	186·5	9·3	40·1	28·5	217·5	90·5	306·4	71·1
Chemicals and Allied Products	17·1	37·9	39·9	4·9	20·4	22·5	233·3	105·3	459·2	110·3
Miscellaneous Commodities	52·1	72·7	73·9	5·7	32·4	20·1	141·8	101·6	352·6	61·4
Totals	619·2	1,240·2	1,248·3	431·6	1,189·2	1,120·3	201·5	100·6	259·5	94·2
(b) WITH THE UNITED KINGDOM.										
Agricultural and Vegetable Products	16·2	38·7	51·3	146·8	141·2	186·5	316·6	132·6	127·0	132·1
Animals and Products	5·7	5·2	5·3	35·4	91·3	40·7	93·0	101·9	114·9	44·5
Fibres and Textiles	60·6	111·3	68·3	0·2	2·6	1·0	112·6	57·3	500·0	38·4
Wood and Paper	3·7	3·1	5·3	12·8	36·8	21·4	143·2	170·9	167·9	58·4
Iron and Its Products	17·3	16·7	21·6	1·4	17·6	6·8	124·8	129·3	485·7	38·6
Non-Ferrous Metals	4·8	6·7	7·5	16·6	9·9	15·4	156·8	111·9	92·7	155·5
Non-Metallic Minerals	6·3	9·1	13·6	0·4	3·1	2·0	215·8	149·3	500·0	64·5
Chemicals and Allied Products	4·3	6·0	5·4	0·6	3·4	4·9	125·5	90·0	816·6	144·1
Miscellaneous Commodities	13·2	17·1	10·9	1·0	6·9	3·0	82·5	63·7	300·0	43·4
Totals	132·1	213·9	189·2	215·2	312·8	281·7	143·2	88·4	130·9	90·1
(c) WITH THE UNITED STATES.										
Agricultural and Vegetable Products	44·1	119·6	98·7	34·1	146·5	48·6	224·0	82·6	142·5	33·1
Animals and Products	23·3	42·9	37·4	32·3	75·8	66·9	160·5	87·1	207·1	88·2
Fibres and Textiles	32·5	101·7	72·0	1·2	7·1	4·0	221·5	70·7	333·3	56·3
Wood and Paper	31·7	52·4	51·7	45·2	216·0	237·7	163·0	98·6	525·6	110·0
Iron and Its Products	121·4	226·9	284·2	2·0	19·7	11·6	234·1	125·2	580·0	58·9
Non-Ferrous Metals	27·7	46·0	73·7	34·2	30·0	101·7	266·0	160·2	297·3	339·0
Non-Metallic Minerals	74·2	188·4	149·3	7·2	22·3	18·7	201·2	79·2	259·7	83·8
Chemicals and Allied Products	9·6	28·1	27·0	3·2	12·2	12·5	281·2	96·0	390·6	102·4
Miscellaneous Commodities	31·8	50·2	53·4	4·0	12·7	13·3	167·9	106·3	332·5	104·7
Totals	396·3	856·2	847·4	163·4	542·3	515·0	213·8	98·9	315·1	94·9

EXTERNAL TRADE
IMPORTS AND EXPORTS
1900–1930



The statistics in the following table indicate the trend of Canadian trade from 1914 to 1930, (a) with all countries, (b) with the United Kingdom, and (c) with the United States.

SUMMARY OF TREND OF CANADIAN TRADE, 1914 TO 1930.

(Values in Millions of Dollars.)

Fiscal Year	Imports into Canada.				Exports from Canada.			Excess of— Imports (i) Exports (e).	Percentage Relation of Exports to Imports.
	Dutiable Goods.	Free Goods.	Total Imports.	Per cent Free.	Canadian Produce.	Foreign Produce.	Total Exports.		
(a) WITH ALL COUNTRIES.									
1914	410·3	208·9	619·2	33·7	431·6	23·8	455·4	(i) 163·8	73·6
1915	279·8	176·1	455·9	38·6	409·4	52·0	461·4	(e) 5·5	101·2
1916	289·4	218·8	508·2	43·0	741·6	37·7	779·3	(e) 271·1	153·3
1917	461·7	384·7	846·4	45·4	1,151·4	27·8	1,179·2	(e) 332·8	139·3
1918	542·3	421·2	963·5	43·7	1,540·0	46·1	1,586·1	(e) 622·6	164·6
1919	526·5	393·2	919·7	42·7	1,216·4	52·3	1,268·7	(e) 349·0	137·9
1920	693·6	370·9	1,064·5	34·8	1,239·5	47·1	1,286·6	(e) 222·1	120·9
1921	847·5	392·6	1,240·1	31·6	1,189·2	21·2	1,210·4	(i) 29·7	97·6
1922	495·6	252·2	747·8	33·7	740·2	13·7	753·9	(e) 6·1	100·8
1923	537·3	265·3	802·6	33·0	931·5	13·8	945·3	(e) 142·7	117·8
1924	591·3	302·1	893·4	33·8	1,045·4	13·4	1,058·8	(e) 165·4	118·5
1925	516·0	280·9	796·9	35·1	1,069·1	12·3	1,081·4	(e) 284·5	135·7
1926	583·0	344·3	927·3	37·1	1,315·4	13·3	1,328·7	(e) 401·4	143·3
1927	659·9	371·0	1,030·9	36·0	1,252·2	15·4	1,267·6	(e) 236·7	122·9
1928	710·1	398·9	1,109·0	36·0	1,228·4	22·2	1,250·6	(e) 141·6	112·8
1929	821·1	444·6	1,265·7	35·1	1,363·7	25·2	1,388·9	(e) 123·2	109·7
1930	819·2	429·1	1,248·3	34·5	1,120·3	24·7	1,145·0	(i) 103·3	91·7
(b) WITH THE UNITED KINGDOM.									
1914	102·4	29·7	132·1	22·5	215·2	7·1	222·3	(e) 90·2	167·5
1915	68·0	22·1	90·1	24·5	186·6	25·1	211·7	(e) 121·6	234·9
1916	52·0	25·4	77·4	32·8	451·9	11·2	463·1	(e) 385·7	598·3
1917	75·5	31·6	107·1	29·5	742·1	13·9	756·0	(e) 648·9	705·9
1918	58·0	23·3	81·3	28·6	845·5	15·6	861·1	(e) 779·8	1,059·1
1919	50·0	23·0	73·0	31·5	540·7	20·1	560·8	(e) 487·8	768·2
1920	93·2	33·1	126·3	26·2	489·2	6·8	496·0	(e) 369·7	392·7
1921	170·1	43·8	213·9	20·5	312·8	1·4	314·2	(e) 100·3	146·9
1922	95·1	22·0	117·1	18·8	299·4	1·0	300·4	(e) 183·3	256·5
1923	116·2	25·1	141·3	17·7	379·1	0·8	379·9	(e) 238·6	268·8
1924	126·1	27·5	153·6	17·8	360·1	1·1	361·2	(e) 207·6	235·1
1925	124·7	26·4	151·1	17·5	395·9	1·3	397·2	(e) 246·1	262·8
1926	133·1	30·6	163·7	18·6	508·2	1·1	509·3	(e) 345·6	311·1
1927	135·0	28·9	163·9	17·6	446·9	1·1	448·0	(e) 284·1	273·3
1928	150·1	36·4	186·5	19·1	410·7	2·1	412·8	(e) 226·3	222·1
1929	154·4	39·6	194·0	20·4	429·7	1·[illegible]	431·6	(e) 237·6	222·4
1930	148·7	40·5	189·2	21·4	281·7	1·4	283·1	(e) 93·9	149·6
(c) WITH THE UNITED STATES.									
1914	249·5	146·8	396·3	37·0	163·4	13·6	177·0	(i) 219·3	44·6
1915	168·6	128·5	297·1	43·2	173·3	13·0	186·3	(i) 110·8	62·7
1916	199·5	171·4	370·9	46·2	201·1	15·6	216·7	(i) 154·2	58·4
1917	332·0	333·3	665·3	50·1	280·6	10·0	290·6	(i) 374·7	43·7
1918	429·3	336·6	792·9	45·8	417·2	23·6	440·8	(i) 352·1	55·6
1919	416·5	333·7	750·2	44·5	454·9	22·8	477·7	(i) 272·5	63·7
1920	499·7	301·4	801·1	37·6	464·0	37·1	501·1	(i) 300·0	62·5
1921	544·0	312·2	856·2	36·5	542·3	18·4	560·7	(i) 295·5	65·5
1922	312·1	203·9	516·0	39·5	292·6	11·5	304·1	(i) 211·9	58·9
1923	332·2	208·8	541·0	38·6	369·1	11·2	380·3	(i) 160·7	70·3
1924	355·9	245·3	601·2	40·8	430·7	10·9	441·6	(i) 159·6	73·4
1925	287·1	222·7	509·8	43·7	417·4	9·8	427·2	(i) 82·6	83·8
1926	338·0	270·7	608·6	44·5	474·9	11·0	485·9	(i) 122·7	79·7
1927	392·7	294·3	687·0	42·9	466·4	12·9	479·3	(i) 207·7	69·7
1928	416·0	302·9	718·9	42·1	478·1	18·7	496·8	(i) 222·1	69·0
1929	523·9	344·1	868·0	39·6	499·6	21·7	521·3	(i) 346·7	60·1
1930	523·3	324·1	847·4	38·2	515·0	21·6	536·	(i) 310·8	63·3

Subsection 2.—General Analysis of Current Import and Export Trade.

The external trade of Canada, in common with that of every other country in the world, suffered a severe decline, both in volume and in value, following the war. The decline in value, owing to lower prices, was very much greater than that in volume, as is shown in Table **37** on pp. 582-583 of the 1930 Year Book.

Allowing for the price changes, the physical volume of Canada's imports was greater for the fiscal year 1930 than for any previous year, while, owing largely to reduced exports of grains, the volume of exports declined in 1930. The particulars are set forth in the following table:—

Fiscal Year.	Imports.		Exports (Canadian).	
	Declared Value.	Based on 1926 Average Value.	Declared Value.	Based on 1926 Average Value.
	$	$	$	$
1924	893,367,000	855,692,000	1,045,351,000	1,189,945,000
1925	796,933,000	805,247,000	1,069,067,000	1,120,360,000
1926	927,329,000	927,329,000	1,315,356,000	1,315,356,000
1927	1,030,893,000	1,100,530,000	1,252,158,000	1,233,685,000
1928	1,108,956,000	1,190,802,000	1,228,349,000	1,302,285,000
1929	1,265,679,000	1,403,856,000	1,363,710,000	1,548,578,000
1930	1,248,274,000	1,455,155,000	1,120,258,000	1,254,974,000

Canada's total foreign trade during the year ended Mar. 31, 1930, showed a decrease compared with 1929 of 9·8 p.c., but compared with 1928 an increase of 1·4 p.c. The decrease compared with the year 1929 in imports amounted to 1·4 p.c., and in exports to 17·6 p.c. The decrease in exports was mainly accounted for by the smaller exports of grains, particularly wheat, to the United Kingdom and Continental Europe, due partly to lower yields but also reflecting temporary marketing policies as well.

If the exports of barley, flaxseed, oats, rye, wheat and wheat flour are eliminated from the Dominion's domestic exports for 1929 and 1930, it will be noted that the exports of "all other commodities" show an increase for 1930 over 1929 of $23,892,074. The particulars are set forth in the following table:—

CANADA'S DOMESTIC EXPORTS, LESS EXPORTS OF BARLEY, FLAXSEED, OATS, RYE, WHEAT AND WHEAT FLOUR, FISCAL YEARS ENDED MAR. 31, 1929 AND 1930.

Item.	1929.	1930.	Increase (+) Decrease (−).
	$	$	$
Barley	25,743,971	10,388,735	− 15,355,236
Flaxseed	5,745,397	1,732,087	− 4,013,310
Oats	10,241,938	4,055,855	− 6,186,083
Rye	10,809,020	1,451,640	− 9,357,380
Wheat	428,524,326	215,753,475	− 212,770,851
Wheat flour	65,117,779	45,457,195	− 19,660,584
Totals, above Six Commodities	546,182,431	278,838,987	− 267,343,444
Totals, Domestic Exports	1,363,709,672	1,120,258,302	− 243,451,370
Totals, Exports "All Other Commodities"	817,527,241	841,419,315	+ 23,892,074

Statistical Tables of Current Trade.—Tables **10** to **18** (pp. 521-587) deal with the current trade statistics of the Dominion. Tables **10** and **11** are summary tables, showing by groups our trade with the United Kingdom, the United States and all countries, by values and percentages, for the latest four fiscal years. Table **12** shows the same in detail for exports and Table **13** for imports of all important articles. Table **14** shows by main classes imports as dutiable and free and exports as of Canadian and foreign produce for the five fiscal years ended 1930. Table **15** shows imports and exports for the fiscal year ended 1930 by degree of manufacture and by origin, and Table **16** gives similar information on a classification according to purpose. Table **17** gives our imports and exports for the two latest years by ports and provinces, and Table **18** shows the values imported from different countries under the preferential, treaty rate and general tariffs in 1929 and 1930.

Subsection 3.—Trade with the United Kingdom and the British Empire.

Trade with the United Kingdom.—The following table gives a summary of the trade of Canada with the United Kingdom during the year ended Mar. 31, 1930. Values of exports and imports are shown by principal commodities and group totals, together with increases or decreases in 1930 as compared with 1929.

The table shows clearly the extent to which Canadian imports from the United Kingdom are made up of textiles and alcoholic beverages, while the major portion of domestic exports to the United Kingdom is made up of vegetable and animal products, such as grains, meats, furs and dairy products. With reference to the exports of Canadian grains to the United Kingdom, attention is directed to discrepancies in the trade figures, discussed on pp. 486 and 487 of this volume. The commodities making up our export and import trade with the United Kingdom are dealt with in much greater detail in Tables **12** and **13** of this chapter.

SUMMARY OF CANADIAN TRADE WITH THE UNITED KINGDOM, BY GROUPS AND PRINCIPAL COMMODITIES, YEAR ENDED MAR. 31, 1930, WITH INCREASES OR DECREASES AS COMPARED WITH 1929.

(Values in Thousands of Dollars.)

Imports.			Exports (Canadian).		
Group and Commodity.	Value.	Increase (+) Decrease (−).	Group and Commodity.	Value.	Increase (+) Decrease (−).
	$	$		$	$
I.—Agricultural and Vegetable Products	51,279	− 2,391	I.—Agricultural and Vegetable Products	186,522	− 138,584
Alcoholic beverages	37,508	− 2,806	Wheat	139,798	− 120,210
Tea	4,819	− 463	Wheat flour	14,077	− 2,895
Vegetable oils	2,629	+ 1,173	Barley	7,560	− 9,992
II.—Animals and Animal Products	5,289	− 375	Apples, fresh	6,626	+ 2,741
Leather, manufactured	1,278	− 5	Rubber footwear	3,370	+ 112
Leather, unmanufactured	1,171	− 110	Rubber, n.o.p	3,204	+ 738
III.—Fibres and Textiles	68,244	− 8,777	Cereal foods	2,385	+ 208
Woollen goods	22,261	− 4,015	Oatmeal	2,011	− 62
Cotton goods	10,515	− 1,587	Oats	1,453	− 2,590
Flax, hemp and jute	6,612	− 437	Hay	1,39[illegible]	+ 902
Woollen yarn	5,666	+ 99	Tobacco, raw	1,389	− 536
Artificial silk	5,397	+ 95	II.—Animals and Products	40,674	− 6,971
Noils and tops	3,433	− 1,747	Cheese	16,225	− 6,414
Wool, raw	2,280	− 390	Furs, raw	10,314	+ 276
Carpets, wool	1,400	− 21	Meats	7,169	− 349
Cotton yarn	1,255	− 255	Fish	4,108	+ 389
			Leather, unmanufactured	1,201	− 810

SUMMARY OF CANADIAN TRADE WITH THE UNITED KINGDOM, BY GROUPS AND PRINCIPAL COMMODITIES, YEAR ENDED MAR. 31, 1930, WITH INCREASES OR DECREASES AS COMPARED WITH 1929—concluded.

(Values in Thousands of Dollars.)

Imports.

Group and Commodity.	Value.	Increase (+) Decrease (−).
	$	$
IV.—Wood and Paper	5,251	+ 316
Books and printed matter	2,604	+ 154
Paper	1,666	+ 133
V.—Iron and Steel	21,640	+ 2,643
Rolling mill products	7,817	+ 1,079
Machinery	4,557	+ 560
Wire	1,858	+ 369
Engines and boilers	1,236	+ 117
Hardware and cutlery	1,117	− 16
VI.—Non-Ferrous Metals	7,504	+ 850
Electric apparatus	2,727	+ 800
Electro-plated ware	1,079	+ 118
VII.—Non-Metallic Minerals	13,602	+ 1,501
Coal	5,307	+ 1,148
Clay and products	4,450	+ 492
Glass	1,375	+ 148
VIII.—Chemicals	5,429	+ 465
IX.—Miscellaneous	10,942	+ 907
Total Imports	189,180	− 4,861

Exports (Canadian).

Group and Commodity.	Value.	Increase (+) Decrease (−).
	$	$
III.—Fibres and Textiles	976	+ 166
IV.—Wood and Paper	21,450	− 901
Newsprint paper	9,265	− 446
Planks and boards	6,179	− 498
Wood pulp	1,408	− 377
V.—Iron and Steel	6,848	− 1,873
Automobiles	3,001	− 2,464
Machinery	1,888	+ 508
VI.—Non-Ferrous Metals	15,404	− 943
Lead	4,342	− 404
Zinc	2,751	+ 1,327
Aluminium	2,577	+ 1,101
Nickel	2,538	− 2,611
VII.—Non-Metallic Minerals	1,952	+ 181
VIII.—Chemicals	4,889	+ 852
Acids	2,841	+ 685
XI.—Miscellaneous	3,031	+ 89
Films	2,007	− 42
Total Exports	281,746	− 147,984

Trade of Canada with the British Empire.—Canada was the first of the British Dominions to grant a preference on goods the produce and manufacture of the United Kingdom and reciprocating British Dominions and possessions. This preference was extended by Order in Council from time to time to other portions of the British Empire until now it is applicable to practically every British Dominion and possession. In the case of Newfoundland, in addition to the preference, Canada grants free admission to fish and fish products. Australia receives special concessions under the Trade Agreement of 1925 and the British West Indies under the agreement of 1925 referred to on p. 482. The British Preferential Tariff enacted in 1897, as well as trade treaties and agreements negotiated with British and foreign countries, have had the effect of stimulating Canada's external trade. When the British preference became effective in 1897 Canada's total imports from the United Kingdom in that year amounted to only $29,401,000, compared with an import in 1887 valued at $44,741,000, and in 1873 at $67,997,000. From 1873 to 1897 imports from the United Kingdom decreased $38,596,000 or 56·7 p.c., while from 1897 to 1930 they increased $159,779,000 or 543·4 p.c. Thus since the introduction of the British Preferential Tariff a downward trend in imports from the United Kingdom has changed to one strongly upward. But in spite of the encouragement offered by the Preferential Tariff a study of the figures in the following table will show that trade with the United Kingdom, and with the British Empire as a whole, has not grown so rapidly as that with foreign countries, with the result that in both imports and exports the percentage of the total trade of Canada carried on with the British Empire has declined. The proportion of trade with parts of the Empire other than the United Kingdom has increased but not sufficiently to overcome the decreased percentage with the United Kingdom. The trade of Canada with the British Empire for the fiscal years 1886, 1896, 1906, 1914, 1922, 1929 and 1930 was as under:—

TRADE OF CANADA WITH THE BRITISH EMPIRE.

Item and Fiscal Year.	Canadian Trade with—			Percentage of Total Trade with—		
	United Kingdom.	Other British Empire.	Total British Empire.	United Kingdom.	Other British Empire.	Total British Empire.
	$	$	$	p.c.	p.c.	p.c.
Imports.						
1886	39,033,006	2,383,560	41,416,566	40·7	2·5	43·2
1896	32,824,505	2,388,647	35,213,152	31·2	2·2	33·4
1906	69,183,915	14,605,519	83,789,434	24·4	5·1	29·5
1914	132,070,406	22,456,440	154,526,846	21·4	3·6	25·0
1922	117,135,343	31,973,910	149,109,253	15·7	4·3	20·0
1929	194,041,381	63,377,958	257,419,339	15·3	5·0	20·3
1930	189,179,738	63,523,966	252,703,704	15·2	5·1	20·3
Exports (Canadian).						
1886	36,694,263	3,262,803	39,957,066	47·2	4·2	51·4
1896	62,717,941	4,048,198	66,766,139	57·2	3·7	60·9
1906	127,456,465	10,964,757	138,421,222	54·2	4·5	58·7
1914	215,253,969	23,388,548	238,642,517	49·9	5·4	55·3
1922	299,361,675	46,473,735	345,835,410	40·4	6·3	46·7
1929	429,730,485	106,396,532	536,127,017	31·5	7·8	39·3
1930	281,745,965	97,904,303	379,650,268	25·2	8·8	34·0

Subsection 4.—Trade with the United States and Other Foreign Countries.

Trade with the United States.—During the fiscal year 1930, nearly 68 p.c. of Canadian imports came from the United States, including large importations in all the main groups of commodities. Iron and Its Products was the most important group, including automobile parts and engines for Canadian automobile factories, machinery for the expanding industries and mineral development of Canada, and rolling-mill products for further manufacture in Canadian factories, as well as finished motor vehicles and farm implements. The second most important group was Non-Metallic Minerals, which includes coal and petroleum products. Imports of coal are remaining about stationary, while imports of petroleum are expanding rapidly with the increase in motor vehicles. Among Canadian exports to the United States, the Wood and Paper Products group was by far the most important. Indeed newsprint paper constituted almost one-quarter of the total exports to the United States. Since the recent expansion of newsprint mills in Canada exports of newsprint have increased, while those of pulpwood and wood-pulp have declined somewhat. Recent mineral development in Canada resulting in largely increased exports of raw gold, copper and nickel has made Non-Ferrous Metals the second most important group of exports, while the Animal Products group, including fish, cattle, furs and meats, was third. Values of imports and exports of the main groups and principal commodities in trade with the United States are shown in the following table:—

SUMMARY OF CANADIAN TRADE WITH THE UNITED STATES, BY GROUPS AND PRINCIPAL COMMODITIES, YEAR ENDED MAR. 31, 1930, WITH INCREASES OR DECREASES AS COMPARED WITH 1929.

(Values in Thousands of Dollars.)

Imports.

Group and Commodity.	Value.	Increase (+) Decrease (−).
	$	$
I.—Agricultural and Vegetable Products	98,752	− 4,915
Fruits, fresh	20,726	− 3,982
Rubber, crude	14,050	− 2,399
Grains	13,350	+ 557
Vegetables, fresh	7,505	+ 1,587
Vegetable oils	7,253	− 31
Tobacco, raw	5,364	− 255
II.—Animals and Products	37,388	− 5,266
Furs	9,078	− 4,165
Hides, raw	6,268	− 3,018
Meats	5,635	+ 1,352
Leather, unmanufactured	4,680	+ 42
III.—Fibres and Textiles	71,998	− 9,892
Cotton, raw	21,566	− 6,604
Cotton goods	14,499	− 971
Silk, raw	5,600	+ 1,072
Manila and sisal grass	3,773	− 1,680
Silk clothing	3,303	+ 291
Artificial silk	2,908	+ 525
IV.—Wood and Paper	51,736	+ 1,172
Wood, unmanufactured	14,834	− 1,411
Books and printed matter	14,720	+ 1,338
Paper	11,592	+ 914
Wood, manufactured	10,590	+ 332
V.—Iron and Steel	284,164	− 32,925
Machinery	62,693	+ 8,078
Rolling-mill products	50,199	+ 387
Automobile parts	35,537	− 19,930
Automobiles	34,001	− 8,618
Farm implements	29,339	− 10,488
Engines and boilers	13,845	− 4,188
Tubes and pipes	5,191	+ 1,307
VI.—Non-Ferrous Metals	73,739	+ 11,634
Electric apparatus	34,177	+ 9,767
Copper	14,365	+ 1,649
Brass	5,712	+ 13
Aluminium	5,221	− 231
VII.—Non-Metallic Minerals	149,294	+ 14,140
Coal	50,819	− 593
Petroleum, crude	37,937	+ 10,973
Petroleum, refined	24,878	+ 1,481
Stone and products	7,403	+ 96
Coke	6,319	− 129
Clay and products	5,579	+ 1,100
Glass	5,081	+ 220
VIII.—Chemicals	26,983	+ 779
Paints and varnishes	4,218	+ 83
Soda and compounds	3,328	+ 510
Fertilizers	3,305	− 354
IX.—Miscellaneous	53,388	+ 4,703
Settlers' effects	10,113	+ 770
Scientific equipment	3,992	+ 354
Totals, Imports	847,442	− 20,570

Exports (Canadian).

Group and Commodity.	Value.	Increase (+) Decrease (−).
	$	$
I.—Agricultural and Vegetable Products	48,627	− 9,901
Whiskey	16,405	− 1,706
Wheat	7,487	− 4,894
Potatoes	5,558	+ 4,417
Seeds	2,709	− 4,794
Sugar, maple, including syrup	2,404	+ 1,054
Bran and shorts	2,363	− 2,989
Vegetables, n.o.p.	1,990	+ 720
Ale and beer	1,959	− 3,629
II.—Animals and Products	66,894	− 18,099
Fish	14,572	− 232
Animals, living	14,265	− 1,890
Furs, raw	7,603	− 5,490
Hides, raw	7,572	− 1,672
Meats	6,446	− 3,936
Milk and cream	5,379	− 680
Leather, unmanufactured	4,812	− 2,279
Cheese	1,499	− 371
III.—Fibres and Textiles	3,961	− 969
Wool, raw	1,317	− 1,213
IV.—Wood and Paper	237,669	+ 2,004
Newsprint paper	126,283	+ 3,191
Planks and boards	38,400	+ 2,022
Wood pulp	37,265	+ 323
Pulpwood	13,860	− 327
Shingles	6,599	− 1,064
Laths	3,059	− 2,940
Logs	2,479	+ 125
V.—Iron and Steel	11,636	+ 479
Pigs and ingots	4,687	+ 878
Farm implements	4,119	− 249
VI.—Non-Ferrous Metals	101,729	+ 38,507
Gold, raw	34,375	+ 22,004
Copper, blister	25,989	+ 9,234
Nickel	17,832	+ 4,343
Copper ore	8,097	+ 1,764
Aluminium	4,957	+ 532
Silver	4,739	− 676
VII.—Non-Metallic Minerals	18,662	+ 668
Asbestos, raw	7,898	+ 518
Stone and products	6,100	+ 297
Coal	1,721	− 357
VIII.—Chemicals	12,536	+ 1,756
Fertilizers	6,967	+ 1,431
Soda and compounds	2,328	+ 305
Acids	2,215	+ 193
IX.—Miscellaneous	13,336	+ 993
Settlers' effects	5,540	+ 343
Electrical energy	4,025	+ 89
Films	1,929	+ 599
Totals, Exports (Canadian)	515,050	+ 15,438

For a more detailed treatment of the commodities making up our export and import trade with the United States, see Tables **12** and **13** of this chapter.

Canadian Trade via the United States.—Imports from overseas countries *via* the United States have steadily declined in recent years, especially those from the British Empire. This decrease has followed: (1) general propaganda to utilize Canadian sea and river ports, (2) additional concessions to goods imported under the Preferential Tariff if they come direct. Provision has been made, in trade treaties and agreements negotiated with foreign countries, that goods must be imported *via* a Canadian sea or river port in order to obtain the full benefits of special rates of duty. Between 1920 and 1930 imports *via* the United States have decreased from 9·5 p.c. to 2·4 p.c. of the total imports from overseas countries.

The proportion of exports from Canada to overseas countries *via* the United States shows a slight decline since 1927, the percentages for the past nine fiscal years being:—1922, 32·8; 1923, 41·1; 1924, 36·2; 1925, 39·3; 1926, 39·2; 1927, 39·5; 1928, 38·9; 1929, 36·7; 1930, 33·8. Details by countries are given in Table **21** of this chapter.

Trade with Other Foreign Countries.—The relative changes in the positions occupied by the United States and other foreign countries in Canada's trade in various years from 1886 to 1930 are shown in the following table. Imports from the United States have increased from 44·6 p.c. to 67·9 p.c. of total imports, while imports from other foreign countries have remained fairly constant. In the case of Canadian exports, on the other hand, those to the United States have remained about 35 p.c. to 45 p.c. of the total, while those to other foreign countries have increased from 4·5 p.c. to over 20 p.c. of total Canadian exports.

TRADE OF CANADA WITH THE UNITED STATES AND OTHER FOREIGN COUNTRIES.

(Fiscal Years 1886, 1896, 1906, 1914, 1922, 1929 and 1930.)

Item and Fiscal Year.	Canadian Trade with—			Percentage of Total Trade with—		
	United States.	Other Foreign Countries.	Total Foreign Countries.	United States.	Other Foreign Countries.	Total Foreign Countries.
	$	$	$	p.c.	p.c.	p.c.
Imports.						
1886	42,818,651	11,756,920	54,575,571	44·6	12·2	56·8
1896	53,529,390	16,618,619	70,148,009	50·8	15·8	66·6
1906	169,256,452	30,694,394	199,950,846	59·6	10·9	70·5
1914	396,302,138	68,365,014	464,667,152	64·0	11·0	75·0
1922	515,958,196	82,736,883	598,695,079	69·0	11·0	80·0
1929	868,012,229	140,247,523	1,008,259,752	68·6	11·1	79·7
1930	847,442,037	148,127,841	995,569,878	67·9	11·8	79·7
Exports (Canadian).						
1886	34,284,490	3,515,148	37,799,638	44·1	4·5	48·6
1896	37,789,481	5,152,185	42,941,666	34·4	4·7	39·1
1906	83,546,306	13,516,428	97,062,734	35·5	5·8	41·3
1914	163,372,825	29,573,097	192,945,922	37·9	6·8	44·7
1922	292,588,643	101,816,627	394,405,270	39·5	13·8	53·3
1929	499,612,145	327,970,510	827,582,655	36·7	24·0	60·7
1930	515,049,763	225,558,271	740,608,034	46·0	20·0	66·0

With further reference to the trade of Canada with countries other than the United Kingdom and the United States, attention is directed to Tables **22** to **35**, giving the trade of Canada in leading commodities with 42 British and foreign countries for the fiscal years 1929 and 1930.

Subsection 5.—Geographical Distribution of Canadian Trade by Continents and Countries.

Geographical Distribution of Canadian Trade by Continents.—During the fiscal year ended Mar. 31, 1930, Canada sold more goods to the continent of North America than to Europe. The large reduction in the exports of grain products was a major factor in the relative distribution of Canadian exports among the continents, and accounted for greatly decreased exports to Europe and Asia, while exports to North and South America, in which grain products play a small part, increased over those of 1929. Imports from North America decreased, those from Europe remained about the same, while those from South America, Oceania and Africa continued to increase. Summary statistics are given in the following table:—

TRADE OF CANADA, BY CONTINENTS, 1926, 1929 AND 1930.
(With proportion of Trade with each Continent.)

Continent.	Imports for Consumption.						Exports (Canadian).					
	Values (Million $).			Percentages of Totals.			Values (Million $).			Percentages of Totals.		
	1926.	1929.	1930.	1926.	1929.	1930.	1926.	1929.	1930.	1926.	1929.	1930.
Europe	223·4	286·7	284·8	24·1	22·6	22·8	648·5	642·8	407·7	49·3	47·1	36·5
United Kingdom	163·7	194·0	189·2	17·6	15·3	15·2	508·2	429·7	281·7	38·6	31·5	25·2
Other Europe	59·7	92·7	95·6	6·5	7·3	7·6	140·3	213·1	126·0	10·7	15·6	11·3
North America	644·7	894·3	871·4	69·5	70·7	69·8	516·2	543·1	561·2	39·2	39·8	50·0
United States	609·8	868·1	847·4	65·7	68·6	67·9	474·9	500·2	515·0	36·1	36·7	45·9
Other North America	34·9	26·2	24·0	3·8	2·1	1·9	41·3	42·9	46·2	3·1	3·1	4·1
South America	17·1	26·5	31·9	1·9	2·1	2·6	27·4	32·6	34·7	2·1	2·4	3·1
Asia	32·7	33·5	31·2	3·5	2·6	2·5	77·2	87·2	63·1	5·9	6·4	5·6
Oceania	8·7	22·5	24·5	0·9	1·8	1·9	32·6	37·6	36·1	2·5	2·8	3·2
Africa	0·8	2·2	4·5	0·1	0·2	0·4	13·3	20·3	17·5	1·0	1·5	1·6
Totals, Imports	927·4	1,265·7	1,248·	100·0	100·0	100·0	1315·2	1,363·6	1,120·3	100·0	100·0	100·0

See also Tables **19** and **20** of this chapter.

Imports from Principal Countries.—The relative order of the four leading countries which supplied Canada with goods in the fiscal year ended Mar. 31, 1930, was unchanged from 1929, although in the case of the first three countries the values decreased. The principal countries from which Canada increased her imports over the previous year were New Zealand (butter), Peru (crude oil and sugar), Argentina (corn and flaxseed) and British East Africa (sugar). Countries besides the United States, the United Kingdom and France from which imports fell off were Fiji (sugar), Cuba (sugar) and British India (tea and jute fabrics). While the countries which provided Canada's 1930 imports did not alter very much as compared with 1929, during the eight years from 1922 to 1930 there have been some very significant changes. Germany has risen from 19th to 4th place, imports from that country having increased tenfold. Imports from New Zealand and Australia have increased greatly under the trade agreements with those countries, New Zealand having risen from 22nd to 5th place and Australia from 30th to 17th. Increased importations of crude oil from Colombia have raised that country from 35th to 13th place. On the other hand the diversion of imports of raw sugar and other tropical products from Cuba and Santo Domingo to countries willing to make more favourable trade agreements with Canada has resulted in Cuba dropping from 4th to 21st place and Santo Domingo from 10th to 29th place in the import trade.

CANADA'S IMPORTS FROM THIRTY-FIVE LEADING COUNTRIES, 1930.

NOTE.—Countries arranged in order of importance, 1930.

Rank.				Country.	Value of Imports.	Increase (+) or Decrease (−) 1930 Compared with—		Percentage of Imports.	
1922	1928	1929	1930			1922.	1929.	1922.	1930.
					$	$	$	p.c.	p.c.
1	1	1	1	United States	847,442,037	+ 331,483,841	− 20,570,192	69·0	67·9
2	2	2	2	United Kingdom	189,179,738	+ 72,044,395	− 4,861,643	15·7	15·2
3	3	3	3	France	25,158,207	+ 11,676,202	− 1,057,489	1·8	2·0
19	4	4	4	Germany	21,505,428	+ 19,464,412	+ 707,745	0·3	1·7
22	11	6	5	New Zealand	16,282,719	+ 14,499,219	+ 3,511,525	0·2	1·3
12	6	7	6	Belgium	13,019,006	+ 9,173,288	+ 1,004,468	0·5	1·0
6	5	5	7	Japan	12,537,253	+ 4,342,572	− 384,064	1·1	1·0
15	7	11	8	Argentina	10,232,327	+ 7,877,227	+ 2,804,759	0·3	0·8
11	9	9	9	Netherlands	9,432,608	+ 5,430,561	+ 415,845	0·5	0·8
9	8	8	10	British India	9,032,740	+ 3,752,883	− 1,333,808	0·7	0·7
7	18	18	11	Peru	7,492,128	+ 508,725	+ 3,044,270	0·9	0·6
5	10	10	12	Switzerland	7,314,840	− 1,356,768	− 602,605	1·2	0·6
35	12	12	13	Colombia	7,252,691	+ 6,892,182	+ 403,283	0·1	0·6
16	16	17	14	Jamaica	5,194,973	+ 2,979,442	+ 404,678	0·3	0·4
28	20	19	15	Italy	4,963,694	+ 3,576,324	+ 703,369	0·2	0·4
14	13	14	16	Barbados	4,675,158	+ 1,680,599	− 524,039	0·4	0·4
30	17	20	17	Australia	4,211,351	+ 3,132,027	+ 726,515	0·1	0·3
8	14	16	18	British Guiana	3,982,493	− 2,184,171	− 890,744	0·8	0·3
36	27	22	19	Czechoslovakia	3,792,389	+ 3,440,465	+ 494,796	–	0·3
20	19	13	20	Fiji	3,676,604	+ 1,710,424	− 2,021,308	0·3	0·3
4	15	15	21	Cuba	3,510,227	− 9,532,341	− 1,393,279	1·7	0·3
26	23	22	22	China	2,977,022	+ 1,563,495	− 118,274	0·2	0·2
21	24	24	23	Spain	2,784,059	+ 1,004,651	+ 80,984	0·2	0·2
17	22	25	24	Ceylon	2,600,423	+ 413,094	+ 71,283	0·3	0·2
23	28	21	25	Trinidad and Tobago	2,590,157	+ 911,499	− 785,901	0·2	0·2
27	29	26	26	Newfoundland	2,378,103	+ 986,077	− 135,303	0·2	0·2
39	32	27	27	Sweden	2,259,404	+ 2,014,109	+ 74,315	–	0·2
61	34	45	28	British East Africa	1,982,243	+ 1,975,133	+ 1,684,560	–	0·2
10	26	34	29	Santo Domingo	1,776,772	− 2,289,138	+ 641,412	0·5	0·1
24	30	30	30	Brazil	1,687,707	+ 192,462	− 38,607	0·2	0·1
25	25	29	31	British Straits Settlements	1,536,879	+ 82,137	− 478,328	0·2	0·1
58	31	32	32	British West Africa	1,321,906	+ 1,302,704	+ 95,367	–	0·1
18	33	31	33	Hong Kong	1,259,085	− 850,652	− 143,417	0·3	0·1
29	21	28	34	British West Indies, other	1,201,625	− 23,400	− 876,214	0·2	0·1
34	36	35	35	Norway	1,104,935	+ 678,007	+ 115,431	0·1	0·1
				Totals, Above 35 Countries	1,237,348,931	+ 498,551,686	− 19,230,610	98·8	99·1
				Totals, Imports	1,248,273,582	+ 500,469,250	− 17,405,509	100·0	100·0
				British Empire	252,703,704	+ 103,594,451	− 4,715,635	19·9	20·3
				Foreign Countries	995,569,878	+ 396,874,799	− 12,689,874	80·1	79·7

Exports to Principal Countries.—An analysis of Canada's total domestic exports by countries, 1930, demonstrates that the decreases when compared with 1929 occurred chiefly in the exports to those countries that purchase large quantities of grains, principally wheat, from Canada, such as the countries of Europe and China and Japan in the Orient. Indeed if the exports of grains during the two years be eliminated from exports to such countries, it will be found that exports of other commodities were well maintained, while in the case of some countries where grain products form an insignificant part of Canada's exports there were increases, as in exports to the United States, Argentina and

New Zealand. When compared with 1922, a number of important changes have occurred in the relative importance of various countries as a market for Canada's goods. The United States has replaced the United Kingdom as Canada's principal customer. Germany has risen from 12th to 4th place; Argentina from 17th to 6th; New Zealand from 13th to 7th; and China from 23rd to 8th place. Italy has dropped from 3rd place in 1922 to 13th in 1930; Australia from 6th to 10th; while Cuba, Trinidad and Tobago, British Guiana and Barbados seem to be growing less important as markets for Canadian products, since the value of exports to these countries in 1930 was either less or but little greater than in 1922.

CANADA'S DOMESTIC EXPORTS TO FORTY LEADING COUNTRIES, 1930.

NOTE.—Countries arranged in order of importance, 1930.

Rank.				Country.	Value of Exports.	Increase (+) or Decrease (−) 1930 Compared with—		Per cent of Exports.	
1922	1928	1929	1930			1922.	1929.	1922.	1930.
					$	$	$	p.c.	p.c.
2	1	1	1	United States	515,049,763	+ 222,461,120	+ 15,437,618	39·5	46·0
1	2	2	2	United Kingdom	281,745,965	− 17,615,710	− 147,984,520	40·4	25·2
4	5	5	3	Japan	30,475,581	+ 15,644,061	− 11,624,387	2·0	2·7
12	3	3	4	Germany	25,343,661	+ 20,834,114	− 21,365,143	0·6	2·3
5	6	6	5	Belgium	21,692,858	+ 9,333,558	− 5,608,526	1·7	1·9
17	12	12	6	Argentina	19,206,746	+ 15,973,323	+ 4,713,555	0·4	1·7
13	11	10	7	New Zealand	19,166,488	+ 15,037,957	+ 1,808,725	0·6	1·7
23	9	7	8	China	16,527,959	+ 14,627,332	− 7,714,548	0·3	1·5
9	14	11	9	France	16,507,011	+ 8,298,783	+ 375,823	1·1	1·5
6	8	9	10	Australia	16,322,771	+ 5,644,171	− 3,147,534	1·4	1·5
7	4	4	11	Netherlands	15,944,469	+ 6,361,545	− 28,422,419	1·3	1·4
8	10	16	12	Newfoundland	12,178,392	+ 2,860,753	+ 1,017,882	1·3	1·1
3	7	8	13	Italy	11,387,294	− 3,948,524	− 11,637,605	2·1	1·0
16	15	13	14	British South Africa	10,917,642	+ 7,027,252	− 1,314,131	0·5	1·0
25	13	15	15	British India	9,116,251	+ 7,479,106	− 2,742,185	0·2	0·8
40	35	31	16	St. Pierre and Miquelon	5,859,251	+ 5,430,061	+ 3,130,127	0·1	0·5
10	23	14	17	Greece	5,387,067	+ 140,032	− 6,463,704	0·7	0·5
21	19	22	18	Jamaica	5,138,757	+ 2,924,593	− 127,326	0·3	0·4
29	21	23	19	Sweden	4,678,037	+ 3,457,841	− 87,781	0·2	0·4
24	25	24	20	British West Indies, other	4,567,639	+ 2,737,841	− 88,580	0·2	0·4
33	50	21	21	Spain	4,503,231	+ 3,686,254	− 1,201,024	0·1	0·4
22	20	19	22	Brazil	4,292,293	+ 2,289,844	− 1,580,647	0·3	0·4
14	18	25	23	Cuba	4,245,576	+ 271,144	− 197,377	0·5	0·4
20	17	18	24	Denmark	4,108,704	+ 1,865,523	− 1,872,331	0·3	0·4
11	24	26	25	Trinidad and Tobago	3,998,197	− 550,338	− 155,374	0·6	0·4
18	28	33	26	Russia	3,738,401	+ 1,120,662	+ 1,280,909	0·4	0·3
15	16	17	27	Norway	3,674,985	− 238,387	− 3,760,552	0·5	0·3
[1]	22	27	28	Irish Free State	2,711,544	[1]	− 1,433,199	−	0·2
30	26	32	29	Mexico	2,583,440	+ 1,385,843	− 92,545	0·2	0·2
31	38	40	30	Bermuda	2,287,280	+ 1,298,167	+ 659,277	0·1	0·2
42	41	34	31	Chile	2,280,003	+ 1,989,325	− 123,439	−	0·2
32	39	28	32	Dutch East Indies	2,279,871	+ 1,328,302	− 1,325,496	0·1	0·2
26	27	30	33	Hong Kong	2,000,124	+ 588,425	− 837,339	0·2	0·2
65	42	43	34	Peru	1,795,003	+ 1,723,320	+ 483,736	−	0·2
51	43	42	35	British East Africa	1,707,167	+ 1,538,964	+ 138,996	−	0·2
19	30	35	36	British Guiana	1,661,332	− 636,773	− 577,174	0·3	0·1
56	46	37	37	Colombia	1,643,048	+ 1,515,849	− 154,345	−	0·1
62	38	20	38	Portugal	1,410,606	+ 1,322,942	− 4,324,693	−	0·1
36	31	36	39	Finland	1,331,652	+ 727,641	− 790,477	0·1	0·1
27	31	39	40	Barbados	1,324,569	− 53,415	− 357,385	0·2	0·1
				Totals, Above 40 Countries	1,100,790,628	+ 365,882,501	− 238,065,138	99·3	98·3
				Totals Exports (Domestic)	1,120,258,302	+ 380,017,622	− 243,451,370	100·0	100·0
				British Empire	379,650,268	+ 33,814,858	− 156,476,749	46·7	34·0
				Foreign Countries	740,608,034	+ 346,202,764	86,974,621	53·3	66·0

[1] Included with "United Kingdom".

Statistical Tables of Trade by Countries.—Statistics showing the course of import and export trade during the latest five fiscal years by countries with which Canada carries on trade will be found in Tables **19** (imports) and **20** (exports). Table **21** shows by countries the values of goods imported into and exported from Canada *via* the United States for the latest two fiscal years.

Finally, the trade of Canada with the leading countries with which she trades (other than the United Kingdom and the United States, which are exhaustively dealt with in Tables **12** and **13**), is analysed by countries and by leading commodities in Tables **22-35**, for the latest two fiscal years. Historical tables showing our trade with these and other countries in each year since Confederation will be found on pp. 17-23 of the annual report of the Trade of Canada for 1930, published by, and obtainable from, the Dominion Bureau of Statistics.

Subsection 6.—Principal Commodities Imported and Exported.

The following table gives in summary form the values of the principal commodities which constituted the import and export trade of Canada in the fiscal year 1930. The commodities are classified under the nine main groups. Increases or decreases in value in 1930 as compared with 1929 are shown. The table illustrates the extent to which exports predominated in the Vegetable, Animal, Wood and Non-Ferrous Metal groups, while imports exceeded exports in the Textile, Iron, Non-Metallic Mineral, Chemical and Miscellaneous groups.

PRINCIPAL COMMODITIES IMPORTED AND EXPORTED, FISCAL YEAR ENDED MAR. 31, 1930.

(Values in thousands of dollars.)

Imports.	Value.	Increase (+) Decrease (−) with 1929.	Exports (Canadian).	Value.	Increase (+) Decrease (−) with 1929.
	$	$		$	$
I.—VEGETABLE PRODUCTS..	227,049	− 6,081	I.—VEGETABLE PRODUCTS..	384,636	− 261,878
Alcoholic beverages.....	45,026	− 3,818	Wheat..................	215,753	− 212,771
Fruits, fresh............	23,779	− 2,137	Wheat flour............	45,457	− 19,661
Sugar, for refining.......	22,925	− 3,481	Whiskey...............	25,856	+ 1,733
Grains..................	21,012	+ 1,545	Rubber tires...........	18,153	− 1,280
Rubber.................	20,025	− 3,066	Barley.................	10,389	− 15,355
Vegetable oil.........	12,244	+ 1,435	Rubber footwear........	9,986	+ 1,397
Tea....................	10,694	− 1,058	Apples, fresh...........	8,112	+ 3,245
Vegetables, fresh........	8,274	+ 1,336	Potatoes...............	8,042	+ 4,959
Tobacco, raw...........	6,472	− 295	Rubber, n.o.p...........	4,109	+ 1,549
Coffee, green............	5,925	+ 68	Oats..................	4,056	− 6,186
Fruits, dried............	5,809	− 190	Seeds.................	3,238	− 4,707
Nuts, edible.............	5,095	− 80	Bran and shorts.........	2,582	− 2,914
Seeds...................	5,061	+ 2,819	Oatmeal................	2,441	− 632
Fruits, prepared.........	4,227	+ 476	Maple sugar............	2,396	+ 1,076
Cocoa and chocolate....	3,651	− 151	Hay....................	2,008	+ 881
			Ale and beer............	1,996	− 3,612
II.—ANIMAL PRODUCTS....	69,854	− 1,808	Tobacco, raw...........	1,504	− 450
Butter..................	14,472	+ 5,443	Rye....................	1,452	− 9,357
Furs....................	11,954	− 5,212	Sugar, refined..........	1,424	− 752
Hides, raw..............	8,402	− 4,027			
Meats...................	7,599	+ 1,694	II.—ANIMAL PRODUCTS....	133,009	− 25,748
			Fish....................	34,768	− 214
Leather, unmanufactured..................	5,919	− 90	Furs, raw..............	18,706	− 5,544
Leather, manufactured..	5,618	+ 629	Cheese.................	18,278	− 6,904
Fish....................	3,475	+ 23	Animals, living..........	15,771	− 1,263
			Meats..................	15,031	− 4,154
III.—FIBRES AND TEXTILES	185,241	− 21,198	Hides, raw.............	7,731	− 1,749
Woollen goods...........	29,388	− 4,387			
Cotton goods............	28,555	− 2,343	Leather, unmanufactured..................	6,497	− 3,095
Cotton, raw.............	21,682	− 6,522	Milk and cream.........	5,379	− 682
Flax, hemp and jute	14,717	− 1,027	Milk, condensed.........	3,262	− 459
Artificial silk...........	13,419	+ 1,543			
Silk piece goods.........	13,093	− 3,522	III.—FIBRES AND TEXTILES	9,066	− 612
Silk, raw................	8,361	+ 1,813	Rags....................	1,632	− 169

PRINCIPAL COMMODITIES IMPORTED AND EXPORTED, FISCAL YEAR ENDED MAR. 31, 1930—concluded.

(Values in thousands of dollars.)

Imports.	Value.	Increase (+) Decrease (−) with 1929.
	$	$
III.—Fibres and Textiles—concluded.		
Woollen yarn	5,870	+ 137
Silk clothing	5,074	+ 38
Wool, raw	4,307	− 1,484
Noils and tops	3,834	− 1,989
Cotton yarn	3,828	− 364
Manila and sisal grass	3,823	− 1,944
Carpets, wool	3,245	− 62
IV.—Wood and Paper	60,951	+ 1,736
Books and printed matter	18,131	+ 1,591
Wood, unmanufactured	15,348	− 1,291
Paper	14,764	+ 1,115
Wood, manufactured	12,708	+ 321
V.—Iron and Steel	316,879	− 29,737
Machinery	69,118	+ 8,855
Rolling-mill products	61,894	+ 1,810
Automobile parts	35,747	− 20,014
Automobiles	34,465	− 8,504
Farm implements	30,075	− 10,217
Engines and boilers	15,146	− 4,161
Tubes and pipes	5,948	+ 1,251
Iron ore	5,021	+ 630
Hardware and cutlery	4,950	+ 175
Castings and forgings	4,497	− 2,370
Wire	3,659	− 147
VI.—Non-Ferrous Metals	87,950	+ 12,512
Electrical apparatus	37,611	+ 10,836
Copper	14,899	+ 1,831
Brass	7,000	+ 245
Aluminium	6,059	− 311
Clocks and watches	3,496	− 80
VII.—Non-Metallic Minerals	186,496	+ 19,532
Coal	56,812	+ 1,152
Petroleum, crude	50,951	+ 13,291
Petroleum, refined	25,180	+ 1,508
Clay and products	12,257	+ 1,840
Glass	10,454	+ 736
Stone and products	8,703	+ 165
Coke	6,403	− 243
Sulphur	3,823	+ 884
Diamonds, unset	3,194	+ 12
VIII.—Chemicals	39,908	+ 2,184
Paints and varnishes	5,957	+ 102
Fertilizers	5,034	+ 186
Soda and compounds	4,411	+ 745
Drugs and medicines	3,809	+ 82
Dyeing and tanning materials	3,549	− 433
IX.—Miscellaneous	73,945	+ 5,454
Settlers' effects	11,181	+ 790
Household and personal equipment	10,231	+ 559
Containers	6,286	+ 806
Scientific equipment	4,957	+ 498
Musical instruments	3,131	+ 305
Totals, Imports	1,248,274	− 17,406

Exports (Canadian).	Value.	Increase (+) Decrease (−) with 1929.
	$	$
III.—Fibres and Textiles—concluded.		
Wool, raw	1,576	− 1,221
Binder twine	1,502	+ 185
Cotton	843	+ 141
Socks and stockings	826	+ 362
Felt manufactures	654	+ 92
IV.—Wood and Paper	289,567	+ 945
Newsprint paper	145,61	+ 3,267
Planks and boards	49,447	+ 1,783
Wood pulp	44,705	− 191
Pulp wood	13,860	− 327
Shingles	6,704	− 1,089
Timber	4,235	+ 381
Logs	3,678	− 971
Laths	3,095	− 2,929
V.—Iron and Steel	78,590	− 3,667
Automobiles	35,308	− 7,752
Farm implements	18,397	+ 2,526
Machinery	7,155	− 182
Pigs and ingots	4,727	+ 843
Automobile parts	2,299	− 84
Pipe and tubing	2,203	− 20
Hardware and cutlery	1,743	− 227
Scrap iron	1,424	+ 304
VI.—Non-Ferrous Metals	154,319	+ 41,541
Gold, raw	34,375	+ 21,979
Copper blister	28,966	+ 9,998
Nickel	25,035	+ 1,154
Aluminium	16,422	+ 6,778
Silver	11,570	− 393
Lead	10,638	− 492
Copper ore	8,770	+ 833
Zinc	8,367	+ 60
Electric apparatus	2,521	+ 120
Brass	2,333	+ 292
VII.—Non-Metallic Minerals	28,545	+ 1,144
Asbestos, raw	12,074	+ 807
Stone and products	6,904	+ 366
Coal	3,999	− 525
Petroleum, crude	1,281	− 27
VIII.—Chemicals	22,468	+ 3,030
Fertilizers	7,990	+ 1,912
Acids	5,097	+ 856
Soda and compounds	4,209	+ 289
Drugs and medicines	780	+ 119
IX.—Miscellaneous	20,058	+ 1,794
Settlers' effects	6,304	+ 387
Films	4,791	+ 525
Electrical energy	4,028	+ 90
Vessels	901	+ 692
Musical instruments	646	− 122
Totals, Exports (Canadian)	1,120,258	− 243,451

For further information respecting Canada's trade in principal commodities with all countries, fiscal years 1927-1930, see Table **13** for imports and Table **12** for exports.

Canada's Principal Imports.—An analysis of 62 leading commodities imported for Canadian industries in 1930, indicates that about one-third of Canada's total imports is for use in the various industries of the country. Of these 62 commodities imported for Canadian industries, amounting to $351,238,000 in 1930, 50·7 p.c. were raw materials, 22·2 p.c. partly manufactured and 27·1 p.c. fully manufactured goods, such as automobile engines and parts, iron and steel articles for agricultural implements, etc. The total value of these 62 commodities imported in 1930 was $40,663.000 less than in 1929, whereas total imports were only $17,406,000 less.

Compared with the previous year, imports of crude petroleum increased $13,000,000, of electric apparatus nearly $11,000,000 and of machinery nearly $9,000,000, while imports of automobile parts decreased $20,000,000, of farm implements $10,000,000 and of automobiles $8,000,000.

The following statement gives the values of Canada's leading imports for the fiscal years 1890, 1900, 1910, 1920 and 1930, the commodities being arranged by order of importance in 1930. It is an interesting study to note the changing relations over this period of forty years between the values of commodities when thus listed by rank. Machinery, which now heads the list with imports valued at $69,000.000, was in sixth place ten years ago, when its imports were valued at $36,700,000. Forty years ago, imports of machinery ranked eleventh. On the other hand, woollen goods which to-day are tenth by order of value, ranked an easy first in 1890 and retained a position among the first three commodities imported until 1920. During the entire period, coal has kept a fairly uniform position among the first three commodities. Sugar and its products, which held a fairly high position prior to 1910, rose to first place in 1920, but in 1930 dropped to thirteenth place.

CANADA'S LEADING IMPORTS, FISCAL YEARS, 1890, 1900, 1910, 1920 AND 1930.

(Commodities arranged in order of importance, 1930.)

Commodity.	1890.	1900.	1910.	1920.	1930.
	$	$	$	$	$
Machinery	1,877,551	5,159,952	14,690,873	36,716,791	69,117,528
Rolling-mill products	5,645,704	11,905,937	15,692,051	39,985,746	61,894,114
Coal	8,013,156	11,012,225	27,526,678	60,072,629	56,812,418
Crude petroleum	–	23,244	1,189,071	20,306,693	50,951,202
Alcoholic beverages	1,695,161	1,938,112	4,459,566	9,135,536	45,026,487
Electric apparatus	317,515	810,900	3,688,538	15,550,254	37,611,263
Automobile parts	–	–	269,586	12,674,823	35,746,929
Automobiles	–	–	1,732,215	15,035,545	34,464,666
Fruits	2,400,851	3,133,407	8,316,462	33,463,270	34,277,882
Woollen goods, including carpets	10,900,600	9,427,575	20,767,010	45,545,127	32,632,927
Farm implements	161,277	2,148,867	2,661,207	14,578,106	30,075,453
Cotton goods	3,792,584	6,399,705	17,928,093	51,435,017	28,554,725
Sugar and products	6,452,654	8,610,845	14,962,770	73,618,354	27,987,156
Refined petroleum	690,283	830,025	2,326,681	10,566,692	25,180,476
Grain and products	3,034,049	8,298,884	7,806,665	9,086,073	25,082,671
Raw cotton	3,539,249	4,229,198	9,384,801	33,854,457	21,682,463
Rubber and products	1,512,427	2,942,044	6,151,157	18,059,435	20,025,316
Silk goods	2,654,505	3,880,535	5,590,829	31,341,944	19,606,589
Books and printed matter	1,404,583	1,588,432	4,127,179	11,228,018	18,130,779
Wood, unmanufactured	1,444,727	3,775,240	8,324,585	14,112,391	15,348,150
Engines and boilers	188,759	778,364	2,019,558	12,997,757	15,146,437
Copper and products	484,189	1,271,270	3,488,260	8,568,035	14,898,632
Paper	1,208,683	1,378,749	4,567,810	9,949,574	14,764,904
Flax, hemp and jute	1,416,217	3,551,037	5,340,312	15,923,836	14,716,510
Butter	62,212	290,220	92,934	176,994	14,471,688

CANADA'S LEADING IMPORTS, FISCAL YEARS, 1890, 1900, 1910, 1920 AND 1930.—concluded.

(Commodities arranged in order of importance, 1930.)

Commodity.	1890.	1900.	1910.	1920.	1930.
	$	$	$	$	$
Wood, manufactured	1,355,230	824,195	3,085,079	7,893,284	12,707,244
Clay and products	948,876	1,593,255	3,418,844	6,371,567	12,256,769
Vegetable oil	612,671	826,882	1,862,265	15,973,417	12,244,151
Furs	1,058,001	2,106,441	5,768,075	12,877,520	11,953,949
Leather	1,173,777	1,879,333	4,202,934	17,102,702	11,537,331
Settlers' effects	1,810,217	3,065,410	10,273,428	10,181,034	11,181,203
Vegetables	337,859	625,749	1,751,265	5,722,600	11,020,339
Tea	3,073,643	3,604,027	5,347,854	8,336,163	10,694,379
Glass and glassware	1,268,314	1,658,694	2,932,104	6,926,459	10,453,706
Stone and products	862,037	1,029,711	1,773,953	3,687,702	8,702,988
Hides and skins, raw	1,703,093	4,214,412	8,235,819	22,654,661	8,402,075
Raw silk	193,529	277,708	393,011	3,090,845	8,360,968
Meats	1,632,143	1,371,184	2,427,901	22,100,333	7,599,473
Brass and products	554,545	851,606	2,228,215	4,531,015	7,000,455
Tobacco, raw	1,344,985	1,508,359	3,229,239	13,604,757	6,471,626
Coke	155,513	506,839	1,695,603	2,476,450	6,403,354
Aluminium	159	12,543	794,490	2,747,385	6,058,864
Paints and varnishes	672,885	1,012,535	1,376,023	3,821,880	5,957,078
Tubes and pipes (iron)	484,008	1,122,987	2,358,848	4,160,378	5,948,162
Coffee, green	591,158	491,148	1,194,061	4,711,079	5,924,635
Woollen yarn	117,729	402,328	1,671,765	4,445,240	5,870,353
Nuts (edible)	231,449	400,441	1,237,292	5,889,573	5,095,109
Seeds	478,397	1,916,994	1,167,321	4,210,782	5,061,255
Fertilizers	14,444	88,974	5,395,423	1,796,752	5,033,592
Iron ore	551	282,191	3,345,550	4,601,716	5,020,921
Hardware and cutlery	1,250,369	1,434,209	1,937,647	4,210,142	4,950,119
Sodium and compounds	329,084	624,873	785,524	2,982,371	4,410,621
Raw wool	1,729,058	1,574,834	1,587,175	7,672,211	4,306,945
Noils and tops	12,100	151,510	599,446	5,830,957	3,833,801
Cotton yarn	17,879	321,348	767,760	4,078,510	3,827,867
Manila and sisal fibre	–	–	1,548,457	5,195,812	3,822,613
Drugs and medicines	513,331	481,359	962,083	3,402,932	3,808,721
Wire (iron)	387,490	1,844,788	3,530,226	5,843,623	3,658,798
Cocoa and chocolate	118,569	386,363	1,130,335	7,626,745	3,651,425
Dyeing and tanning material	484,217	711,508	1,412,099	5,623,720	3,548,656
Clocks and watches	773,538	698,378	1,459,617	3,126,267	3,495,659
Fish	899,683	1,060,708	1,630,744	3,491,678	3,474,921
Gums and resins	149,508	287,276	2,256,307	4,987,716	3,431,591
Diamonds, unset	110,480	451,792	1,902,710	4,470,846	3,193,871
Tools	427,305	825,541	891,820	2,050,286	3,192,449
Musical instruments	434,814	390,407	1,207,592	4,329,093	3,130,873
Nickel plated ware	13,578	18,843	573,591	1,630,047	3,022,935
Hats and caps	1,258,409	1,637,422	3,420,609	4,216,333	2,908,340

Canada's Principal Exports.—During 1930 the declared value of the 54 commodities exported, for which there were quantity statistics, amounted to $913,858,000 or 81·6 p.c. of the total domestic exports, while the total value of the identical commodities *at 1929 average export prices* totalled $912,450,000, thus indicating that the decrease was not due to lower export price, but to a falling off in the physical volume of Canada's exports.

The chief reasons for the reduction in Canada's exports during the fiscal year 1930 as compared with 1929 were the smaller grain crops and the unusual situation which arose in the marketing of these products. Thus the chief commodities to show decreases in exports were:—wheat $213,000,000, wheat flour $20,000,000, barley $15,000,000, rye $9,000,000 and oats $6,000,000; while decreases also occurred in automobiles of $8,000,000, and cheese of $7,000,000. The principal increases in exports occurred in raw gold $22,000,000, copper ore and blister $11,000,000, aluminium bars $5,000,000, potatoes $5,000,000, apples $3,000,000 and printing paper $3,000,000.

CANADA'S LEADING DOMESTIC EXPORTS, FISCAL YEARS 1890, 1900, 1910, 1920 AND 1930

(Commodities arranged in order of importance, 1930.)

Commodity.	1890.	1900.	1910.	1920.	1930.
	$	$	$	$	$
Wheat	388,861	11,995,488	52,609,351	185,044,806	215,753,475
Printing paper	-	-	2,612,243	53,640,122	145,610,519
Planks and boards	17,637,308	22,015,990	33,100,387	75,216,193	49,446,887
Wheat flour	521,383	2,791,885	14,859,854	94,262,928	45,457,195
Wood-pulp	168,180	1,816,016	5,204,597	41,383,482	44,704,958
Copper ore and blister	133,251	1,387,388	6,023,925	11,871,039	37,735,413
Automobiles	-	-	405,011	14,883,607	35,307,645
Fish	8,099,674	10,564,688	15,179,015	40,687,172	34,767,739
Gold, raw	657,022	14,148,543	6,016,126	5,974,334	34,375,003
Whiskey	25,383	396,671	1,010,657	1,504,132	25,856,136
Nickel	-	1,040,498	3,320,054	9,039,221	25,034,975
Furs, raw	1,874,327	2,264,580	3,749,005	20,628,109	18,706,311
Farm implements	367,198	1,692,155	4,319,385	11,614,400	18,396,688
Cheese	9,372,212	19,856,324	21,607,692	36,336,863	18,278,004
Rubber tires	-	-	-	7,395,172	18,153,225
Meats	895,757	13,615,621	8,013,680	96,161,234	15,030,671
Pulpwood	80,005	902,772	6,076,628	8,454,803	13,860,209
Aluminium in bars, etc	-	-	1,202,723	5,680,871	13,828,010
Cattle	6,949,417	8,704,523	10,792,156	46,064,631	13,119,462
Asbestos, raw	444,159	490,909	1,886,613	8,767,856	12,074,065
Silver	201,615	1,354,053	15,009,937	14,255,601	11,569,855
Vegetables	597,074	503,993	1,534,228	11,656,483	11,240,747
Lead	2,000	688,691	529,422	1,193,144	10,637,887
Barley	4,600,409	1,010,425	1,107,732	20,206,972	10,388,735
Rubber footwear	-	-	129,618	1,750,967	9,986,392
Fruits (chiefly apples)	1,073,890	3,305,662	5,492,197	8,347,549	9,593,484
Zinc	-	-	-	950,082	8,366,712
Fertilizers	4,291	51,410	371,315	6,694,037	7,990,313
Hides and skins, raw	506,402	1,396,907	5,508,185	19,762,646	7,730,914
Machinery	143,815	446,391	924,510	6,416,591	7,154,706
Stone and products	949,158	575,749	955,636	3,531,916	6,904,442
Shingles(wood)	340,872	1,131,506	2,331,443	10,848,602	6,704,494
Leather, unmanufactured	727,087	1,535,440	1,296,480	11,742,268	6,496,951
Settlers' effects	818,001	1,095,536	2,274,005	7,631,498	6,304,199
Milk and cream, fresh	-	-	-	1,699,090	5,379,174
Acids	5,545	67	-	901,397	5,096,529
Sugar and products	18,101	100,108	153,357	30,695,005	4,798,712
Pigs, ingots, etc. (iron)	-	137,651	228,183	6,595,688	4,727,137
Timber, square	4,353,870	2,013,746	934,723	2,148,162	4,235,309
Oats	256,156	2,143,179	1,566,612	9,349,455	4,055,855
Coal	2,447,936	4,599,602	5,013,221	13,183,666	3,998,692
Logs (wood)	682,572	760,416	999,681	1,819,083	3,677,917
Milk, condensed	-	-	541,372	8,517,771	3,262,101
Seeds	182,200	322,652	4,602,797	9,915,391	3,237,744
Laths (wood)	392,500	749,301	1,882,950	3,668,511	3,095,417
Bran, shorts and middlings	86,225	145,206	1,842,620	2,983,843	2,582,484
Paper board	-	-	-	4,568,066	2,506,496
Oatmeal and rolled oats	254,657	474,991	1,123,861	4,283,772	2,440,968
Cereal foods	-	-	1,689,648	1,087,901	2,431,137
Brass	-	-	-	1,644,157	2,332,962
Automobile parts	-	-	-	3,097,466	2,298,742
Tubes and pipe (iron)	-	-	-	2,325,369	2,202,769
Ale, beer and porter	10,347	6,272	2,687	145,077	1,995,990

From the above statement, it is seen that wheat has been the leading export for more than twenty years. There have, however, been many changes in the order of all other commodities listed. The newer industries such as printing paper and automobiles, which first appear in the 1910 column above, indicate, by their very rapid development and the corresponding way in which they have relegated older industries to subordinate positions in our export trade, how well manufactures based on natural or acquired advantages have fitted into the national economy. The former industry ranked twentieth in 1910, but has now assumed second place; the latter, fortieth in 1910, has risen to seventh place.

Subsection 7.—Trade in Raw and Manufactured Products.

Relation Between Trade in Raw and Manufactured Products.—The industrial development of a country is indicated by the character of the goods it imports and exports. In the early years of Canada's development the imports were made up chiefly of manufactured products and the exports of raw and semi-manufactured products. Since the opening of the twentieth century this has been almost reversed, a large percentage of the imports consisting of raw and semi-manufactured products for use in Canadian manufacturing industries, and the exports consisting to a considerable degree of products which have undergone some process of manufacture. Thus, the imports of partly and fully manufactured goods increased from $129,693,000 to $959,997,000 between 1900 and 1930, while exports of such goods increased during the same period from $98,906,000 to $690,904,000. Since the opening of the present century Canada has passed through much the same stages of development in her economic life as did the United States during the last quarter of the nineteenth century. While Canada has not gone so far as the United States in increasing exports of manufactured goods but curtailing imports, while curtailing exports of raw materials but increasing imports, she has made considerable progress in this regard since 1914 (the last pre-war fiscal year), though the tendency since 1924 has been slightly in the opposite direction, as the following table shows. This tendency in percentages is accounted for by the fact that, while imports of raw materials have increased since 1924, they have not increased so much as imports of manufactured goods. Similarly, while exports of manufactured goods have also increased, they have not increased so rapidly as exports of raw materials.

STATEMENT SHOWING PROPORTION OF RAW MATERIALS AND PARTLY AND FULLY MANUFACTURED GOODS IMPORTED INTO AND EXPORTED FROM CANADA AND THE UNITED STATES, 1900, 1914 AND 1920–1930.

Fiscal Year.	Raw Materials.				Partly Manufactured Goods.				Fully Manufactured Goods.			
	Imports.		Exports.		Imports.		Exports.		Imports.		Exports.	
	Can.	U.S.	Can.	U.S.	Can.	U.S.	Can.	U.S.	Can.	U.S.	Can.	U.S.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1900	24·9	44·0	41·5	40·2	10·6	15·8	7·7	11·2	64·5	40·2	40·8	48·6
1914	21·8	46·5	63·2	39·9	9·3	16·9	10·1	16·1	68·9	6·6	26·7	44·0
1920	27·5	52·8	35·7	32·6	13·2	15·3	15·1	12·5	59·3	31·9	49·2	54·9
1921	24·9	41·1	44·2	35·5	11·7	14·8	16·6	10·3	63·	44·1	39·2	54·2
1922	28·9	46·4	44·5	39·1	9·6	15·6	14·5	11·1	61·5	38·0	41·0	49·8
1923	28·4	48·3	44·7	36·3	9·7	18·8	16·2	12·5	61·9	32·9	39·1	51·2
1924	28·4	44·6	43·4	35·7	11·2	18·5	16·8	14·1	60·4	36·9	39·8	50·2
1925	27·7	49·8	44·7	39·4	10·8	18·4	15·1	13·5	61·5	31·8	40·2	47·1
1926	27·6	54·5	47·1	33·4	10·0	17·8	14·4	13·6	62·4	27·7	38·5	53·0
1927	25·6	51·1	46·2	35·0	10·1	17·8	14·6	14·1	64·3	31·1	39·2	50·9
1928	25·6	50·3	47·2	32·3	9·6	18·0	15·4	14·9	64·8	31·7	37·4	52·8
1929	23·0	47·9	48·5	29·6	8·0	19·8	14·3	13·8	69·0	32·3	37·2	56·6
1930	23·1	46·5	38·3	27·0	7·7	20·4	19·1	13·8	69·2	33·1	42·6	59·2

The table on p. 506 shows how Canada's imports and exports, analysed into the three categories of raw materials, partly manufactured goods, and fully or chiefly manufactured goods, are distributed among the continents and leading countries of the world as well as the United Kingdom, other British Empire countries, the United States, and other foreign countries. This latter analysis clearly demonstrates that the imports into Canada from the British Empire, except the United Kingdom, consist chiefly of raw and semi-manufactured products, while the exports are made up mainly of manufactured products.

In trade with industrialized continents such as Europe and Asia, Canadian imports are largely manufactured goods and exports raw materials or only partly manufactured, while in trade with South America, Oceania, Africa and North America (if the United States be excluded) the situation is the reverse.

See also Table 15 of this chapter on this subject.

CANADA'S IMPORTS AND EXPORTS BY CONTINENTS AND LEADING COUNTRIES ACCORDING TO DEGREE OF MANUFACTURE, YEAR ENDED MAR. 31, 1929.

NOTE.—Values in millions of dollars. Totals for continents include trade with other countries than those specified.

Continent and Country.	Imports.						Exports (Domestic).					
	Raw Materials.		Partly Manufactured.		Fully Manufactured.		Raw Materials.		Partly Manufactured.		Fully Manufactured.	
	Value.	Per cent of Total.	Value.	Per cent of Total.	Value.	Per cent of Total.	Value.	Per cent of Total.	Value.	Per cent of Total	Value.	Per cent of Total.
	$	p.c.	$	p.c.	$	p.c.	$	p.c.	$	p.c.	$	p.c.
EUROPE.												
Belgium	0·7	5·4	0·8	6·4	10·6	88·2	23·8	87·1	1·9	6·9	1·7	6·0
France	0·6	2·4	1·0	3·8	24·6	93·8	8·4	52·0	3·7	22·7	4·1	25·3
Germany	0·7	3·4	1·6	7·6	18·5	89·0	31·1	66·6	6·2	13·4	9·3	20·0
Italy	0·8	19·8	0·1	2·3	3·3	77·9	20·7	89·9	1·3	5·5	1·1	4·6
Netherlands	1·5	16·5	0·2	2·0	7·3	81·5	35·4	79·9	4·8	10·8	4·1	9·3
United Kingdom	11·1	5·8	9·9	5·1	173·0	89·1	314·0	73·1	22·1	5·1	93·6	21·8
Totals, Europe	17·0	5·9	14·0	4·9	255·5	89·2	466·1	72·5	40·8	6·3	135·9	21·2
N. AMERICA.												
British West Indies	2·8	18·2	10·3	66·8	2·3	15·0	0·6	3·8	0·6	3·8	14·6	92·4
Cuba	0·9	17·4	2·6	53·0	1·5	29·6	1·6	34·9	0·2	3·4	2·7	61·7
Mexico	1·1	97·2	–	–	0·03	2·8	0·5	16·8	0·04	1·6	2·2	81·6
Newfoundland	1·3	52·3	0·02	0·6	1·2	47·1	3·0	26·8	0·2	2·1	7·9	71·1
United States	234·0	27·0	57·4	6·6	576·6	66·4	153·4	30·7	129·3	25·9	216·9	43·4
Totals, N. America	240·9	26·9	71·5	8·0	582·1	65·1	159·9	29·5	130·5	24·1	252·0	46·4
S. AMERICA.												
Argentina	6·7	90·6	0·02	0·2	0·7	9·2	0·04	0·3	0·1	0·8	14·3	98·9
Brazil	1·7	99·9	–	–	–	0·1	–	0·5	0·1	1·3	5·8	98·2
Br. Guiana	–	–	4·8	97·7	0·1	2·3	0·2	8·1	0·1	4·2	2·0	87·7
Colombia	6·8	100·0	–	–	–	–	0·7	39·0	–	0·8	1·1	60·2
Totals, S. America	19·9	75·3	5·7	21·7	0·8	3·0	1·2	3·6	0·4	1·2	31·0	95·2
ASIA.												
Br. India	0·7	7·4	0·1	0·7	9·5	91·9	0·9	7·8	2·3	19·7	8·6	72·5
China	1·3	41·8	0·3	10·4	1·5	47·8	7·6	31·3	4·7	19·5	11·9	49·2
Japan	3·2	24·7	0·1	0·9	9·6	74·4	22·4	53·1	14·4	34·3	5·3	12·6
Totals, Asia	7·7	22·8	1·1	3·3	24·9	73·9	31·0	35·2	21·6	24·5	35·6	40·3
OCEANIA.												
Australia	1·0	28·1	1·1	31·8	1·4	40·1	0·3	1·8	0·8	4·3	18·3	93·9
Fiji	–	–	5·7	99·9	–	0·1	–	1·2	0·1	24·9	0·2	73·9
New Zealand	2·1	16·3	1·8	14·3	8·9	69·4	0·4	2·1	0·6	3·3	16·4	94·6
Totals, Oceania	3·2	14·3	8·6	38·8	10·5	46·9	0·7	2·0	1·5	4·1	35·1	93·9
AFRICA.												
British South Africa	0·1	50·0	0·03	9·7	0·1	40·3	2·3	19·1	0·2	1·8	9·7	79·1
British West Africa	1·2	99·9	–	–	–	1·0	–	–	–	0·6	1·2	99·4
Totals, Africa	1·8	79·2	0·3	12·5	0·2	8·3	2·4	11·6	0·3	1·6	17·6	86·8
Grand Totals	**290·5**	**23·0**	**101·2**	**8·0**	**874·0**	**69·0**	**661·4**	**48·5**	**195·1**	**14·3**	**507·2**	**37·2**
U.K.	11·1	5·8	9·9	5·1	173·0	89·1	314·0	73·1	22·1	5·1	93·6	21·8
Other Br. Empire	11·5	18·1	24·7	38·9	27·2	43·0	10·6	10·0	5·2	4·9	90·5	85·1
Totals, Br. Empire	22·6	8·9	34·6	13·4	200·2	77·7	324·7	60·6	27·3	5·1	184·1	34·3
U.S.	234·0	27·0	57·4	6·6	576·6	66·4	153·4	30·7	129·3	25·9	216·9	43·4
Other foreign countries	33·9	24·2	9·2	6·6	97·1	69·2	183·3	55·9	38·5	11·8	106·1	32·3
Totals, Foreign Countries	267·9	26·6	66·6	6·6	673·7	66·8	336·7	40·7	167·8	20·3	323·0	39·0

Subsection 8.—Canada's Position in International Trade in the Calendar Years 1913 and 1929.

Canada continues to hold her position in international trade, as indicated by the following table giving "Comparison of the Trade of the Principal Countries of the World". In 1913 the Dominion occupied eighth place in imports among the leading trading countries, but in 1929 she occupied fifth place. In export trade, Canada in 1913 was in tenth position, but in 1929 she had moved up to fifth position. In aggregate trade, Canada in 1913 was in ninth position, but in 1929, as in 1926 to 1928, she was in fifth position. In imports, exports and aggregate trade Canada came next after the four leading trading countries, each of which has from four to twelve times our population, *viz.*, the United States, the United Kingdom, Germany and France.

In trade per capita, Canada has made a very creditable showing since 1913. In that year she occupied fifth place in imports per capita and in 1929 she occupied fifth place, being exceeded by New Zealand, the Netherlands, Switzerland and Denmark. In exports per capita, Canada in 1913 occupied seventh place, but in 1929 she had advanced to third place, being exceeded by New Zealand and Denmark. In aggregate trade per capita, Canada in 1913 was in sixth place among the leading commercial nations of the world, but in 1929 she had moved up to fourth place, New Zealand being in first place, Denmark second and Netherlands third.

COMPARISON OF THE TRADE OF THE PRINCIPAL COUNTRIES OF THE WORLD, CALENDAR YEARS 1913 AND 1929.

Rank.		Country.	Foreign Trade.		Increase (+) or Decrease (−) 1929 Compared with 1913.		Trade per capita.	
1913.	1929.		1913.	1929.	Amount.	Per cent.	1913.	1929.
		Net Imports for Consumption.	Million $	Million $	Million $	p.c.	$	$
1	1	United Kingdom	3,207·9	5,411·0	+ 2,203·1	+ 68·7	69·68	118·29
3	2	United States	1,756·9	4,316·3	+ 2,559·4	+ 145·7	18·10	35·96
2	3	Germany	2,563·3	3,197·4	+ 634·1	+ 24·7	38·62	49·65
4	4	France	1,625·3	2,296·4	+ 671·1	+ 41·3	41·04	55·06
8	5	Canada	659·1	1,273·1	+ 614·0	+ 93·1	87·55	128·14
7	6	Italy	703·6	1,120·4	+ 416·8	+ 59·2	20·28	27·46
5	7	Netherlands	1,575·0	1,113·8	− 461·2	− 29·3	256·35	144·07
13	8	Japan	363·3	1,008·6	+ 645·3	+ 177·6	6·94	15·79
6	9	Belgium	894·9	993·1	+ 98·2	+ 10·9	118·07	124·20
9	10	British India	594·1	944·8	+ 350·7	+ 59·0	1·88	2·96
10	11	Argentina	406·6	831·8	+ 425·2	+ 104·5	46·74	76·28
11	12	Australia	370·6	692·0	+ 321·4	+ 86·7	78·30	108·59
12	13	Switzerland	370·5	540·6	+ 170·1	+ 45·9	97·99	134·55
15	14	Spain (1928)	252·1	499·1	+ 247·0	+ 98·0	12·64	22·09
16	15	Sweden	226·9	478·4	+ 251·5	+ 110·8	40·44	78·36
17	16	Denmark	208·3	455·8	+ 247·5	+ 118·8	75·08	130·34
14	17	Brazil	326·0	420·8	+ 94·8	+ 29·1	13·41	10·45
18	18	British South Africa	196·5	419·7	+ 223·2	+ 113·6	28·72	45·98
19	19	Norway	148·0	284·2	+ 136·2	+ 92·0	60·11	101·09
20	20	New Zealand	104·1	232·7	+ 128·6	+ 123·5	98·89	159·00

COMPARISON OF THE TRADE OF THE PRINCIPAL COUNTRIES OF THE WORLD, CALENDAR YEARS 1913 AND 1929—concluded.

Rank.		Country.	Foreign Trade.		Increase (+) or Decrease (−) 1929 Compared with 1913.		Trade per capita.	
1913.	1929.		1913.	1929.	Amount.	Per cent.	1913.	1929.
			Million $	Million $	Million $	p.c.	$	$
		Exports (Domestic).						
2	1	United States	2,448·3	5,157·4	+ 2,709·1	+ 110·6	25·23	42·97
1	2	United Kingdom	2,556·2	3,550·5	+ 994·3	+ 38·9	55·52	77·62
3	3	Germany	2,402·9	3,208·7	+ 805·8	+ 33·5	36·22	49·83
4	4	France	1,327·9	1,972·8	+ 644·9	+ 48·5	33·53	48·16
10	5	Canada	436·2	1,182·4	+ 746·2	+ 170·1	57·95	119·01
6	6	British India	781·9	1,182·1	+ 400·2	+ 51·2	2·48	3·71
13	7	Japan	313·5	978·4	+ 664·9	+ 212·7	5·99	15·32
9	8	Argentina	465·6	920·4	+ 454·8	+ 97·7	53·61	84·40
7	9	Belgium	701·5	902·0	+ 200·5	+ 28·4	92·55	112·81
5	10	Netherlands	1,239·4	805·1	− 434·3	− 35·0	201·71	104·14
8	11	Italy	484·7	783·2	+ 298·5	+ 61·5	13·97	19·19
11	12	Australia	354·0	584·3	+ 230·3	+ 65·0	74·78	91·68
15	13	Sweden	219·0	487·4	+ 268·4	+ 122·5	39·05	79·83
12	14	Brazil	314·7	460·5	+ 145·8	+ 46·3	12·94	11·44
17	15	Denmark	170·8	432·9	+ 262·1	+ 153·4	61·55	123·78
18	16	British South Africa	133·9	416·3	+ 282·4	+ 210·9	19·58	45·61
14	17	Switzerland	265·6	408·7	+ 143·1	+ 53·8	70·25	101·71
16	18	Spain (1928)	204·1	362·7	+ 158·6	+ 77·7	10·23	16·05
19	19	New Zealand	102·1	266·0	+ 163·9	+ 160·5	97·01	181·72
20	20	Norway	102·1	199·6	+ 97·5	+ 95·4	41·46	71·03
		Aggregate Trade.						
3	1	United States	4,205·2	9,473·7	+ 5,268·5	+ 125·3	43·33	78·93
1	2	United Kingdom	5,764·1	8,961·5	+ 3,197·4	+ 55·5	125·20	195·91
2	3	Germany	4,966·2	6,406·1	+ 1,439·9	+ 28·4	74·84	99·48
4	4	France	2,953·2	4,269·2	+ 1,316·0	+ 44·5	74·57	103·22
9	5	Canada	1,095·3	2,455·5	+ 1,360·2	+ 124·1	145·58	247·15
7	6	British India	1,376·0	2,126·9	+ 750·9	+ 54·6	4·36	6·67
12	7	Japan	676·8	1,987·0	+ 1,310·2	+ 193·6	12·93	31·11
5	8	Netherlands	2,814·4	1,918·9	− 895·5	− 31·8	458·06	248·21
8	9	Italy	1,188·3	1,903·6	+ 715·3	+ 60·2	34·25	46·65
6	10	Belgium	1,596·4	1,895·1	+ 298·7	+ 12·4	210·62	237·01
10	11	Argentina	872·2	1,752·2	+ 880·0	+ 100·8	100·35	175·22
11	12	Australia	724·6	1,276·3	+ 551·7	+ 76·1	153·08	200·27
16	13	Sweden	445·9	965·8	+ 519·9	+ 116·6	79·49	158·19
14	14	Switzerland	636·1	949·3	+ 313·2	+ 49·2	168·24	236·26
17	15	Denmark	379·1	888·7	+ 509·6	+ 134·4	136·63	254·12
13	16	Brazil	640·7	881·3	+ 240·6	+ 37·5	26·35	21·89
15	17	Spain (1928)	456·2	861·8	+ 405·6	+ 88·9	22·87	38·14
18	18	British South Africa	330·4	836·0	+ 505·6	+ 153·0	48·30	91·59
20	19	New Zealand	206·2	498·7	+ 292·5	+ 141·8	195·99	340·72
19	20	Norway	250·1	483·8	+ 233·7	+ 93·4	101·57	172·12

Canada's Share in World Trade.—Since 1913 Canada has made remarkable progress in the expansion of her export trade to the world's markets, and at the same time in supplying her requirements from all parts of the world. The following table showing "Canada's Share in Imports of Principal Countries" indicates that while the total imports of the 40 countries listed increased from 1913 to 1928 by 53·3 p.c., the share of those imports provided by Canada increased by 236·0 p.c. In 1913 Canada provided only 1·95 p.c. of the total imports of these countries, while in 1928 this share had increased to 4·15 p.c.

CANADA'S SHARE IN IMPORTS OF PRINCIPAL COUNTRIES, CALENDAR YEARS 1913, 1922 AND 1928.

(Values in Thousands of Dollars.)

Country.	Total Imports.			Imports from Canada.			Canada's Share in Imports.		
	1913.	1922.	1928.	1913.	1922.	1928.	1913.	1922.	1928.
	$	$	$	$	$	$	p.c.	p.c.	p.c.
Europe.									
Belgium	894,865	735,346	896,725	5,677	15,709	22,790	0·64	2·13	2·54
Denmark	229,234	331,085	464,539	269	3,667	4,571	0·12	1·11	0·98
France	1,625,310	1,986,456	2,105,361	3,597	13,684	24,423	0·22	0·69	1·16
Germany	2,563,331	1,500,114	3,344,376	15,256	2,907	89,370	0·59	0·19	2·66
Greece	34,341	114,111	161,319	–	15,125	11,470	–	13·26	7·11
Italy	703,666	757,497	1,159,424	2,785	14,252	51,000	0·39	1·88	4·40
Netherlands	1,574,990	795,177	1,080,540	3,795	9,969	19,863	0·25	1·25	1·84
Norway	148,022	232,828	273,340	217	687	8,394	0·15	0·29	2·93
Spain	273,084	425,164	499,035	–	–	7,694	0·64	–	1·54
Sweden	226,872	296,701	457,732	70	2,065	5,572	0·03	0·69	1·22
Switzerland	370,525	369,492	529,723	3,830	13,240	19,534	1·04	3·59	3·69
United Kingdom	3,741,176	4,506,623	5,818,580	148,377	246,532	282,276	3·80	5·48	4·85
N. America.									
British West Indies	41,908	73,850	85,120	4,052	12,053	17,016	9·69	16·32	19·94
Central Am. States	35,824	45,987	92,580	475	57	39	1·32	0·13	0·04
Cuba	143,827	180,758	212,816	1,499	3,579	4,756	1·03	1·97	2·23
Mexico	97,886	154,250	178,929	151	590	2,187	0·15	0·38	1·22
Newfoundland	15,188	19,317	29,237	4,855	8,247	11,832	31·97	41·38	40·47
United States	1,792,596	3,112,747	4,091,444	142,128	364,025	489,303	7·92	11·69	11·95
S. America.									
Argentina	408,712	665,507	869,215	1,886	2,262	7,266	0·49	0·30	0·81
Bolivia	21,357	19,487	27,462	–	–	278	–	–	1·01
Brazil	326,429	213,518	441,826	1,331	1,449	1,494	0·30	0·47	0·23
British Guiana	7,475	10,966	11,849	692	2,377	2,626	9·26	18·18	22·16
Chile	120,274	86,571	146,044	424	13	73	0·35	0·02	0·05
Colombia	28,536	40,696	123,313	–	3,115	437	–	7·65	0·35
Peru	29,591	51,480	85,665	–	2	391	–	0·04	0·45
Uruguay	52,367	44,758	97,479	–	13	93	–	0·03	0·09
Venezuela	18,030	19,458	80,406	–	–	28	–	–	0·03
Asia.									
British India	620,688	725,529	961,402	29	1,926	11,013	–	0·28	1·14
British Malaya	313,556	238,695	488,845	84	60	1,511	0·03	0·03	0·31
Ceylon	60,288	82,592	146,027	–	108	786	–	0·13	0·54
China	427,992	784,392	968,012	1,362	6,973	11,625	0·32	0·89	1·20
Japan	363,257	921,336	1,020,628	915	8,071	30,886	0·24	0·87	3·03
Philippines	53,313	80,197	134,657	90	175	399	0·17	0·22	0·29
Oceania.									
Australia	380,554	591,707	697,297	4,695	22,751	23,709	1·23	3·89	3·40
Fiji	4,101	4,237	7,081	102	148	342	2·49	3·49	4·83
New Zealand	105,381	156,463	218,241	2,202	6,991	15,860	2·09	4·49	7· 6
Africa.									
British South Africa	212,668	242,337	402,220	4,314	5,822	12,047	2·03	2·48	2·99
Egypt	137,654	197,646	257,097	49	126	137	0·04	0·06	0·05
Gold Coast	17,083	29,247	55,002	–	2	465	–	0·01	0·84
Nigeria	35,049	46,288	76,701	14	4	83	0·04	0·01	0·11
Totals, 40 Countries	18,257,000	20,890,610	28,797,289	355,222	788,776	1,193,639	1·95	3·78	4·15

The other side of this trade expansion is shown in the table, "Canada's Share in Domestic Exports of Principal Countries", which indicates the increasing proportion of the exports of some 40 countries taken by Canada. While the total exports of these countries increased from 1913 to 1928 by 57·1 p.c., exports to Canada increased 112·7 p c. or from 3·39 p.c. to 4·59 p.c. of the total exports of these countries.

CANADA'S SHARE IN DOMESTIC EXPORTS OF PRINCIPAL COUNTRIES, CALENDAR YEARS 1913, 1922 AND 1928.

(Values in Thousands of Dollars.)

Country.	Total Exports.			Exports to Canada.			Canada's Share in Exports.		
	1913.	1922.	1928.	1913.	1922.	1928.	1913.	1922.	1928.
	$	$	$	$	$	$	p.c.	p.c.	p.c.
Europe.									
Belgium	717,152	494,670	863,629	3,568	3,303	8,823	0·49	0·66	1·02
Denmark	170,812	250,715	413,447	17	74	1,041	0·01	0·03	0·25
France	1,327,882	1,774,666	2,024,165	5,299	9,223	26,589	0·39	0·52	1·31
Germany	2,402,867	1,471,316	2,869,042	14,399	4,056	16,208	0·59	0·27	0·56
Greece	22,952	89,608	81,667	–	148	64	–	0·16	0·08
Italy	484,746	446,979	764,233	1,743	521	2,555	0·36	0·12	0·34
Netherlands	1,239,360	491,122	799,638	1,092	1,715	7,356	0·09	0·35	0·92
Norway	102,084	139,526	179,045	311	422	1,123	0·30	0·30	0·63
Spain	230,636	206,745	351,856	–	–	2,836	0·23	–	0·81
Sweden	219,049	307,233	422,010	388	349	2,353	0·18	0·11	0·56
Switzerland	265,645	339,984	411,946	5,976	7,855	7,808	2·21	2·31	1·89
United Kingdom	2,556,194	3,232,529	3,521,418	115,802	113,167	167,736	4·53	3·49	4·77
N. America.									
British West Indies	31,363	50,157	65,325	3,688	11,205	13,547	11·75	22·34	23·04
Central Am. States	45,584	60,420	107,148	3	15	274	0·01	0·02	0·25
Cuba	165,125	331,379	278,070	2,920	4,999	3,797	1·77	1·51	1·37
Mexico	150,203	321,775	296,196	744	4,655	622	0·49	1·45	0·21
Newfoundland	14,975	20,658	36,252	1,905	1,540	2,846	12·72	9·52	7·85
United States	2,448,284	3,765,091	5,030,099	387,607	552,532	861,977	15·85	14·69	17·14
S. America.									
Argentina	468,999	652,348	994,199	–	204	3,927	–	0·03	0·39
Bolivia	36,551	36,960	42,306	–	–	–	–	–	–
Brazil	315,165	301,303	474,743	160	368	846	0·05	0·12	0·18
British Guiana	9,566	12,944	14,476	3,820	5,029	5,423	39·93	38·46	37·46
Chile	144,653	123,584	239,051	–	20	161	–	0·02	0·07
Colombia	34,316	51,150	113,909	–	103	196	–	0·20	0·18
Peru	44,410	90,847	153,181	–	1,687	7,847	–	1·85	5·12
Uruguay	71,236	80,558	105,251	–	–	–	–	–	–
Venezuela	29,484	26,603	117,646	9	60	–	0·03	0·05	–
Asia.									
British India	819,750	885,138	1,208,848	4,633	6,454	8,907	0·56	0·73	0·74
British Malaya	300,989	256,361	479,997	469	382	1,964	0·15	0·15	0·41
Ceylon	72,652	85,154	136,916	1,224	2,037	2,624	0·64	2·39	1·95
China	294,413	542,896	703,862	476	1,057	985	0·16	0·19	0·14
Japan	313,504	780,282	888,398	2,534	6,671	12,569	0·81	0·86	1·42
Philippines	47,773	95,583	155,054	7	985	219	0·02	1·03	0·14
Oceania.									
Australia	354,241	500,518	670,947	814	1,622	3,932	0·23	0·32	0·59
Fiji	6,940	8,033	12,815	324	440	6,048	4·67	5·47	47·19
New Zealand	109,879	187,341	267,788	2,936	1,962	11,949	2·67	1·05	4·46
Africa.									
British South Africa	325,115	273,066	375,527	91	68	166	0·03	0·03	0·05
Egypt	156,411	222,194	277,456	27	5	110	0·02	–	0·04
Gold Coast	24,401	29,796	62,995	–	18	601	–	0·06	0·95
Nigeria	35,782	39,504	82,379	–	–	–	–	–	–
Totals, 40 Countries	16,611,143	19,076,736	26,092,930	562,986	744,951	1,196,029	3·39	3·90	4·59

In the interpretation of these and all tables showing trade between Canada and other specified countries, it should be borne in mind that there are numerous and, in some instances, quite large discrepancies between the figures of trade with a specified country as shown by Canada and as shown by that country.

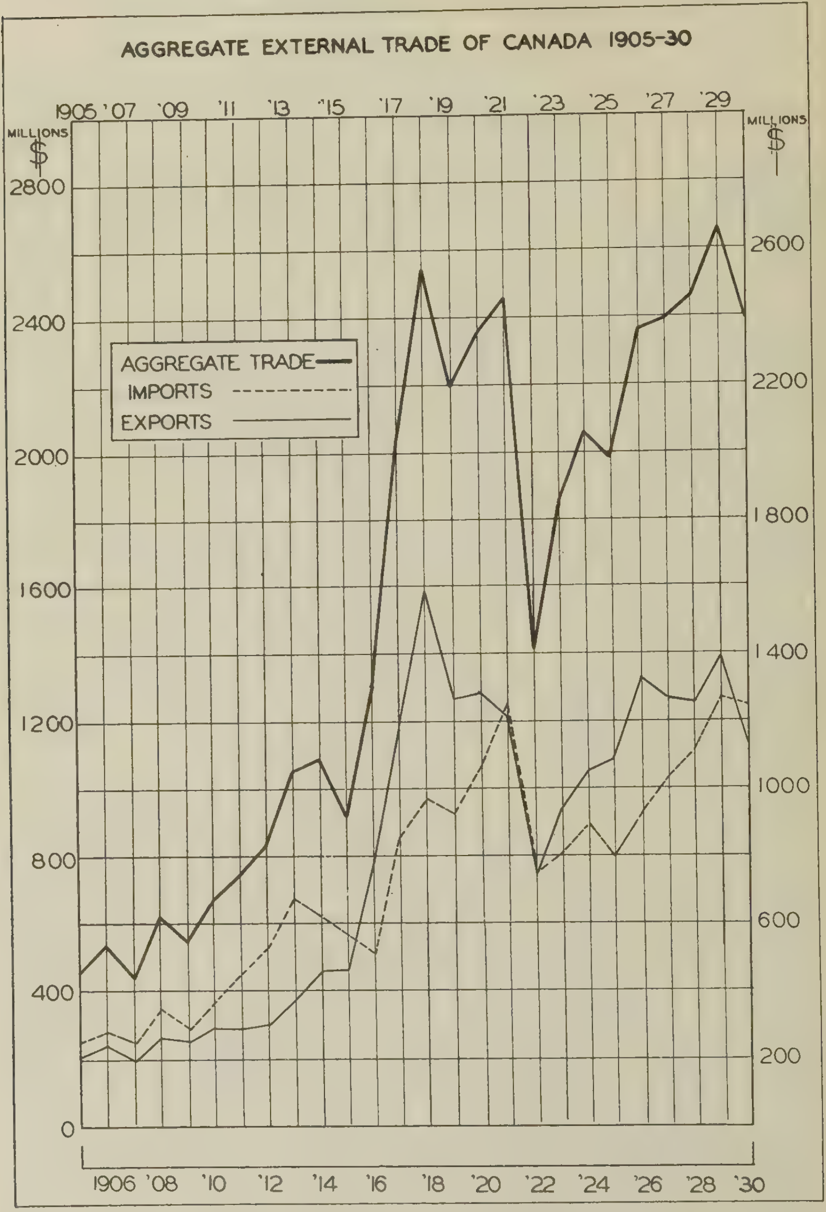
These arise chiefly through inability in all countries to trace the actual origin of imports and final destination of exports. These discrepancies in trade with the 40 leading countries for the year 1928 were as follows:—

Principal Countries of—	Canada's Imports from.	Recorded Exports to Canada.	Canada's Exports to.	Recorded Imports from Canada.
	$	$	$	$
Europe	277,395,000	244,492,000	640,168,000	546,957,000
North America	850,429,000	883,063,000	550,314,000	525,133,000
South America	29,281,000	18,400,000	29,416,000	12,686,000
Asia	31,304,000	27,268,000	69,936,000	56,220,000
Oceania	19,334,000	21,929,000	31,609,000	39,911,000
Africa	1,697,000	877,000	14,449,000	12,732,000
Totals	1,209,440,000	1,196,029,000	1,335,892,000	1,193,639,000

When the figures of our imports from the principal countries of the different continents are compared with their recorded exports to Canada, it is found that the totals are fairly near together. On the other hand, our exports to these principal countries are quite markedly greater than their recorded imports from Canada. The nearness of our import figures to their export figures is doubtless largely attributable to the facts that but a small proportion of our imports from overseas countries come *via* United States and that we value our imports at their cost in the country whence they are imported, taking no account of freight, insurance and interest during the period in transit. On the other hand, the discrepancy between our exports and the imports recorded from Canada by the leading countries appears to be due in large measure to the fact that so large a percentage of our exports is sent out through the United States. If, therefore, in the foregoing table showing "Canada's Share in Imports of Principal Countries" these discrepancies in their recorded imports from Canada be eliminated, it would appear that Canada's share in their imports in 1928 should amount to $1,336,000,000 or about 4·65 p.c. of their total imports.

Subsection 9.—Main Historical Tables and Tables showing Current Trends in External Trade.

In this subsection are assembled in summary form the main tables of Canadian trade since Confederation, while the figures of trade in the latest years are given in greater detail by countries and commodities. Tables **1** to **9** inclusive are of a historical character, while Tables **10** and **11** give in summary, and Tables **12** and **13** in detailed form, our exports and imports for the four latest fiscal years. In Table **14** imports are divided into dutiable and free, and exports into Canadian and foreign produce. Table **15** analyses our trade in the latest year by main groups of origin and degrees of manufacture. Table **16** classifies that trade according to purpose. Table **17** gives trade by provinces and customs ports, and Table **18** by tariffs. Tables **19** and **20** deal with our imports and exports by countries in the latest five years, while Table **21** shows the value of our imports and exports transported *via* the United States. Tables **22** to **35** show by commodities our principal imports from and exports to the more important trading countries other than the United Kingdom and the United States; our trade with these countries is exhaustively dealt with in Tables **12** and **13**.


AGGREGATE EXTERNAL TRADE OF CANADA 1905-30
1905 '07 '09 '11 '13 '15 '17 '19 '21 '23 '25 '27 '29
MILLIONS $
2800
2400
2000
1600
1200
800
400
0
MILLIONS $
2600
2200
1800
1400
1000
600
200
AGGREGATE TRADE
IMPORTS
EXPORTS
1906 '08 '10 '12 '14 '16 '18 '20 '22 '24 '26 '28 '30

1.—Aggregate External Trade of Canada, fiscal years, 1868-1930.

Fiscal Year.	IMPORTS OF MERCHANDISE ENTERED FOR HOME CONSUMPTION.			EXPORTS OF MERCHANDISE.[1]			Total of Imports for Home Consumption and Exports (Merchandise).
	Dutiable.	Free.	Total.	Canadian Produce.[1]	Foreign Produce.	Total.	
	$	$	$	$	$	$	$
1868.....	43,655,696	23,434,463	67,090,159	48,504,899	4,196,821	52,701,720	119,791,879
1869.....	41,069,342	22,085,599	63,154,941	52,400,772	3,855,801	56,256,573	119,411,514
1870.....	45,127,422	21,774,652	66,902,074	59,043,590	6,527,622	65,571,212	132,473,286
1871.....	60,094,362	24,120,026	84,214,388	57,630,024	9,853,244	67,483,268	151,697,656
1872.....	68,276,157	36,679,210	104,955,367	65,831,083	12,798,182	78,629,265	183,584,632
1873.....	71,198,176	53,310,953	124,509,129	76,538,025	9,405,910	85,943,935	210,453,064
1874.....	76,232,530	46,948,357	123,180,887	76,741,997	10,614,096	87,356,093	210,536,980
1875.....	78,138,511	39,270,057	117,408,568	69,709,823	7,137,319	76,847,142	194,255,710
1876.....	60,238,297	32,274,810	92,513,107	72,491,437	7,234,961	79,726,398	172,239,505
1877.....	60,916,770	33,209,624	94,126,394	68,030,546	7,111,108	75,141,654	169,268,048
1878.....	59,773,039	30,622,812	90,395,851	67,989,800	11,164,878	79,154,678	169,550,529
1879.....	55,426,836	23,275,683	78,702,519	62,431,025	8,355,644	70,786,669	149,489,188
1880.....	54,182,967	15,717,575	69,900,542	72,899,697	13,240,006	86,139,703	156,040,245
1881.....	71,620,725	18,867,604	90,488,329	83,944,701	13,375,117	97,319,818	187,808,147
1882.....	85,757,433	25,387,751	111,145,184	94,137,657	7,628,453	101,766,110	212,911,294
1883.....	91,588,339	30,273,157	121,861,496	87,702,431	9,751,773	97,454,204	219,315,700
1884.....	80,010,498	25,962,480	105,972,978	79,833,098	9,389,106	89,222,204	195,195,182
1885.....	73,269,618	26,486,157	99,755,775	79,131,735	8,079,646	87,211,381	186,967,156
1886.....	70,658,819	25,333,318	95,992,137	77,756,704	7,438,079	85,194,783	181,186,920
1887.....	78,120,679	26,986,531	105,107,210	80,960,909	8,549,333	89,510,242	194,617,452
1888.....	69,645,824	31,025,804	100,671,628	81,382,072	8,803,394	90,185,466	190,857,094
1889.....	74,475,139	34,623,057	109,098,196	80,272,456	6,938,455	87,210,911	196,309,107
1890.....	77,106,286	34,576,287	111,682,573	85,257,586	9,051,781	94,309,367	205,991,940
1891.....	74,536,036	36,997,918	111,533,954	88,671,738	8,798,631	97,470,369	209,004,323
1892.....	69,160,737	45,999,676	115,160,413	99,032,466	13,121,791	112,154,257	227,314,670
1893.....	69,873,571	45,297,259	115,170,830	105,488,798	8,941,856	114,430,654	229,601,484
1894.....	62,779,182	46,291,729	109,070,911	103,851,764	11,833,805	115,685,569	224,756,480
1895.....	58,557,655	42,118,236	100,675,891	102,828,441	6,485,043	109,313,484	209,989,375
1896.....	67,239,759	38,121,402	105,361,161	109,707,805	6,606,738	116,314,543	221,675,704
1897.....	66,220,765	40,397,062	106,617,827	123,632,540	10,825,163	134,457,703	241,075,530
1898.....	74,625,088	51,682,074	126,307,162	144,548,662	14,980,883	159,529,545	285,836,707
1899.....	89,433,172	59,989,244	149,422,416	137,360,792	17,520,088	154,880,880	304,303,296
1900.....	104,346,795	68,304,881	172,651,676	168,972,301	14,265,254	183,237,555	355,889,231
1901.....	105,969,756	71,961,163	177,930,919	177,431,386	17,077,757	194,509,143	372,440,062
1902.....	118,657,496	78,080,308	196,737,804	196,019,763	13,951,101	209,970,864	406,708,668
1903.....	136,796,065	88,298,744	225,094,809	214,401,674	10,828,087	225,229,761	450,324,570
1904.....	148,909,576	94,999,839	243,909,415	198,414,439	12,641,239	211,055,678	454,965,093
1905.....	150,928,787	101,035,427	251,964,214	190,854,946	10,617,115	201,472,061	453,436,275
1906.....	173,046,109	110,694,171	283,740,280	235,483,956	11,173,846	246,657,802	530,398,082
1907[2]....	152,065,529	98,160,306	250,225,835	180,545,306	11,541,927	192,087,233	442,313,068
1908.....	218,160,047	134,380,832	352,540,879	246,960,968	16,407,984	263,368,952	615,909,831
1909.....	175,014,160	113,580,036	288,594,196	242,603,584	17,318,782	259,922,366	548,516,562
1910.....	227,264,346	143,053,853	370,318,199	279,247,551	19,516,442	298,763,993	669,082,192
1911.....	282,723,812	170,000,791	452,724,603	274,316,553	15,683,657	290,000,210	742,724,813
1912.....	335,304,060	187,100,615	522,404,675	290,223,857	17,492,294	307,716,151	830,120,826
1913.....	441,606,885	229,600,349	671,207,234	355,754,600	21,313,755	377,068,355	1,048,275,589
1914.....	410,258,744	208,935,254	619,193,998	431,588,439	23,848,785	455,437,224	1,074,631,222
1915.....	279,792,195	176,163,713	455,955,908	409,418,836	52,023,673	461,442,509	917,398,417
1916.....	289,366,527	218,834,607	508,201,134	741,610,638	37,689,432	779,300,070	1,287,501,204
1917.....	461,733,609	384,717,269	846,450,878	1,151,375,768	27,835,332	1,179,211,100	2,025,661,978
1918.....	542,341,522	421,191,056	963,532,578	1,540,027,788	46,142,004	1,586,169,792	2,549,702,370
1919.....	526,494,658	393,217,047	919,711,705	1,216,443,806	52,321,479	1,268,765,285	2,188,476,990
1920.....	693,655,165	370,872,958	1,064,528,123	1,239,492,098	47,166,611	1,286,658,709	2,351,186,832
1921.....	847,561,406	392,597,476	1,240,158,882	1,189,163,701	21,264,418	1,210,428,119	2,450,587,001
1922.....	495,626,323	252,178,009	747,804,332	740,240,680	13,686,329	753,927,009	1,501,731,341
1923.....	537,258,782	265,320,462	802,579,244	931,451,443	13,844,394	945,295,837	1,747,875,081
1924.....	591,299,094	302,067,773	893,366,867	1,045,351,056	13,412,241	1,058,763,297	1,952,130,164
1925.....	516,014,455	280,918,082	796,932,537	1,069,067,353	12,294,290	1,081,361,643	1,878,294,180
1926.....	583,051,670	344,277,062	927,328,732	1,315,355,791	13,344,346	1,328,700,137	2,256,028,869
1927.....	659,897,013	370,995,492	1,030,892,505	1,252,157,506	15,415,636	1,267,573,142	2,298,465,647
1928.....	710,050,228	398,906,238	1,108,956,466	1,228,349,343	22,248,691	1,250,598,034	2,359,554,500
1929.....	821,075,430	444,603,661	1,265,679,091	1,363,709,672	25,186,403	1,388,896,075	2,654,575,166
1930.....	819,230,474	429,043,108	1,248,273,582	1,120,258,302	24,679,768	1,144,938,070	2,393,211,652

[1] Including exports to the United States estimated "short" in the years 1868-1900. [2] Nine months.

2.—Ratio of Exports to Imports and Value per Capita of Exports, Imports and Total Trade, fiscal years, 1868-1930.

Fiscal Year.	Excess of Imports Entered for Consumption over Total Exports.	Excess of Total Exports over Imports Entered for Consumption.	Percentage Rate of Total Exports to Imports Entered for Consumption.	Estimated Population.	Values per capita of—		
					Exports Canadian Produce.	Total Imports.	Total Trade.[2]
	$	$	p.c.	No.	$	$	$
1868	14,388,439	–	78·55	3,372,000	14·38	19·90	34·28
1869	6,898,368	–	89·07	3,413,000	15·35	18·50	33·85
1870	1,330,862	–	98·01	3,454,000	17·09	19·37	36·46
1871	16,731,120	–	80·13	3,518,000	16·38	23·94	40·32
1872	26,326,102	–	74·92	3,611,000	18·23	29·06	47·29
1873	38,565,194	–	69·03	3,668,000	20·87	33·94	54·81
1874	35,824,794	–	70·92	3,825,000	20·06	32·20	52·26
1875	40,561,426	–	64·45	3,887,000	17·93	30·21	48·14
1876	12,786,709	–	86·18	3,949,000	18·36	23·43	41·79
1877	18,984,740	–	79·83	4,013,000	16·97	23·45	40·42
1878	11,241,173	–	87·56	4,079,000	16·67	22·16	38·83
1879	7,915,850	–	89·94	4,146,000	15·06	18·98	34·04
1880	–	16,239,161	123·23	4,215,000	17·29	16·58	33·87
1881	–	6,831,489	107·05	4,337,000	19·36	20·86	40·22
1882	9,379,074	–	91·57	4,384,000	21·47	25·35	46·82
1883	24,407,292	–	79·97	4,433,000	19·78	27·49	47·27
1884	16,750,774	–	84·19	4,485,000	17·80	23·63	41·43
1885	12,544,394	–	87·42	4,539,000	17·43	21·98	39·41
1886	10,797,354	–	88·75	4,589,000	16·94	20·92	37·86
1887	15,596,968	–	85·16	4,638,000	17·46	22·66	40·12
1888	10,486,162	–	89·58	4,688,000	17·36	21·47	38·83
1889	21,187,285	–	79·93	4,740,000	16·94	23·02	39·96
1890	17,373,206	–	84·44	4,793,000	17·79	23·30	41·09
1891	14,063,585	–	87·39	4,844,000	18·31	23·02	41·33
1892	3,006,156	–	97·39	4,889,000	20·26	23·55	43·81
1893	740,176	–	99·36	4,936,000	21·37	23·33	44·70
1894	–	6,614,658	106·06	4,984,000	20·84	21·88	42·72
1895	–	8,637,593	108·58	5,034,000	20·43	20·00	40·43
1896	–	10,453,382	110·40	5,086,000	21·57	20·72	42·29
1897	–	27,839,876	126·11	5,142,000	24·04	20·73	44·77
1898	–	33,222,383	126·30	5,199,000	27·80	24·29	52·09
1899	–	5,458,464	103·65	5,259,000	26·12	28·41	54·53
1900	–	10,585,879	106·13	5,322,000	31·75	32·44	64·19
1901	–	16,578,224	109·32	5,403,000	32·84	33·13	65·97
1902	–	13,233,060	106·73	5,532,000	35·43	35·56	70·99
1903	–	134,952	100·06	5,673,000	37·79	39·68	77·47
1904	32,853,737	–	86·53	5,825,000	34·06	41·87	75·93
1905	50,492,153	–	79·96	5,992,000	31·85	42·05	73·90
1906	37,082,478	–	86·93	6,171,000	38·16	45·98	84·14
1907[1]	58,138,602	–	76·77	6,302,000	28·65	39·70	68·35
1908	89,171,927	–	74·71	6,491,000	38·05	54·31	92·36
1909	28,671,830	–	90·06	6,695,000	36·24	43·10	79·34
1910	71,554,200	–	80·68	6,917,000	40·37	53·54	93·91
1911	162,724,393	–	64·06	7,206,643	38·06	62·82	100·88
1912	214,688,524	–	58·90	7,365,205	39·40	70·93	110·33
1913	294,138,879	–	56·18	7,527,208	47·26	89·17	136·43
1914	163,756,774	–	73·56	7,692,832	56·10	80·49	136·59
1915	–	5,486,601	101·20	7,862,078	52·08	57·99	110·07
1916	–	271,098,936	153·34	8,035,584	92·29	63·24	155·53
1917	–	332,760,222	139·31	8,180,160	140·75	103·48	244·23
1918	–	622,637,214	164·62	8,328,382	184·91	115·69	300·60
1919	–	349,053,580	137·95	8,478,546	143·48	108·48	251·96
1920	–	222,130,586	120·87	8,631,475	143·61	123·34	266·95
1921	29,730,763	–	97·60	8,788,483	135·31	141·11	276·42
1922	–	6,122,677	100·82	8,908,550	83·09	83·94	167·03
1923	–	142,716,593	117·78	9,028,240	103·17	88·90	192·07
1924	–	165,396,430	118·51	9,150,940	114·23	97·63	211·86
1925	–	284,429,106	135·69	9,268,700	115·34	85·98	201·32
1926	–	401,371,405	143·28	9,389,693	140·08	98·76	238·84
1927	–	236,680,637	122·92	9,519,220	131·54	108·30	239·84
1928	–	141,641,568	112·76	9,658,000	127·17	114·82	241·99
1929	–	123,216,984	109·72	9,796,800	139·20	129·19	268·39
1930	103,335,512	–	91·72	9,934,500	112·76	125·65	238·41

[1] Nine months. [2] Not including exports of foreign produce.

3.—Movement of Coin and Bullion, fiscal years, 1868-1930.

NOTE.—Up to 1919 "silver bullion in bars, blocks, ingots, drops, sheets and plates, unmanufactured", was included in "coin and bullion", but since that time it has been regarded as "merchandise". The figures from 1899 have been revised in accordance with the new arrangement.

Fiscal Year.	Total Imports.	Exports.			Total Imports and Exports of Coin and Bullion.
		Canadian.	Foreign.	Total.	
	$	$	$	$	$
1868	4,895,147	4,866,168	–	4,866,168	9,761,315
1869	4,247,229	4,218,208	–	4,218,208	8,465,437
1870	4,335,529	8,002,278	–	8,002,278	12,337,807
1871	2,733,094	6,690,350	–	6,690,350	9,423,444
1872	2,753,740	4,010,398	–	4,010,398	6,764,147
1873	3,005,465	3,845,987	–	3,845,987	6,851,452
1874	4,223,282	1,995,835	–	1,995,835	6,219,117
1875	2,210,089	1,039,837	–	1,039,837	3,249,926
1876	2,220,111	1,240,037	–	1,240,037	3,460,148
1877	2,174,089	–	733,739	733,739	2,907,828
1878	803,726	–	168,989	168,989	972,715
1879	1,639,089	–	704,586	704,586	2,343,675
1880	1,881,807	–	1,771,755	1,771,755	3,653,562
1881	1,123,275	–	971,005	971,005	2,094,280
1882	1,503,743	–	371,093	371,093	1,874,836
1883	1,275,523	–	631,600	631,600	1,907,123
1884	2,207,666	–	2,184,292	2,184,292	4,391,958
1885	2,954,244	–	2,026,980	2,026,980	4,981,224
1886	3,610,557	–	56,531	56,531	3,667,088
1887	532,218	–	5,569	5,569	537,787
1888	2,175,472	–	17,534	17,534	2,193,006
1889	575,251	–	1,978,256	1,978,256	2,553,507
1890	1,083,011	–	2,439,782	2,439,782	3,522,793
1891	1,811,170	129,328	817,599	946,927	2,758,097
1892	1,818,530	306,447	1,502,671	1,809,118	3,627,648
1893	6,534,200	309,459	3,824,239	4,133,698	10,667,898
1894	4,023,072	310,006	1,529,374	1,839,380	5,862,452
1895	4,576,620	256,571	4,068,748	4,235,319	8,901,939
1896	5,226,319	207,532	4,491,777	4,699,309	9,925,628
1897	4,676,194	327,298	3,165,252	3,492,550	8,168,744
1898	4,390,844	1,045,723	3,577,415	4,623,138	9,013,982
1899	4,629,177	1,101,245	2,914,780	4,016,025	8,645,202
1900	8,152,640	1,670,068	6,987,100	8,657,168	16,809,808
1901	3,307,069	–	1,978,489	1,978,489	5,285,558
1902	6,053,791	–	1,669,422	1,669,422	7,723,213
1903	8,695,707	–	619,963	619,963	9,315,670
1904	7,554,917	–	2,465,557	2,465,557	10,020,474
1905	9,961,340	–	1,844,811	1,844,811	11,806,151
1906	6,670,527	–	9,928,828	9,928,828	16,549,355
1907 (9 months.)	7,029,047	–	13,189,964	13,189,964	20,219,011
1908	5,887,737	–	16,637,654	16,637,654	22,525,391
1909	9,611,761	2	1,589,791	1,589,793	11,201,554
1910	5,514,817	–	2,594,536	2,594,536	8,109,353
1911	9,226,715	–	7,196,155	7,196,155	16,422,870
1912	25,077,515	–	7,601,099	7,601,099	32,678,614
1913	4,309,811	–	16,163,702	16,163,702	20,473,513
1914	14,498,451	1,219	23,559,485	23,560,704	38,059,155
1915	131,483,396	667	29,365,701	29,366,368	160,849,764
1916	33,876,227	315	103,572,117	103,572,432	137,448,659
1917	26,986,548	86,087	196,460,961	196,547,048	223,533,596
1918	11,290,341	290,281	3,201,122	3,491,403	14,781,744
1919[1]	–	–	–	–	–
1920	50,463,494	230,117	49,815,279	50,045,396	100,508,890
1921	7,218,775	24,368,846	9,815,827	34,184,673	41,403,448
1922	4,788,246	18,085,904	5,251,430	23,337,331	28,125,577
1923	26,455,231	1,766,060	25,782,806	27,548,866	54,004,097
1924	3,496,705	12,521,619	12,924,211	25,445,830	28,942,535
1925	4,142,292	2,948,353	1,971,620	4,919,973	9,062,265
1926	51,437,859	45,880,408	25,242,303	71,122,711	122,560,570
1927	46,086,458	2,011,391	43,040,819	45,052,210	91,138,668
1928	31,308,807	30,855,656	31,031,311	61,886,967	93,195,774
1929	29,560,310	36,932,465	58,299,998	95,232,463	124,792,773
1930	2,716,218	410,435	4,494,783	4,905,218	7,621,436

[1] No record for 1919 imports and exports.

4.—Duties Collected on Exports, 1868-1892, and on Imports for Home Consumption, 1868-1930, with Percentage of Expense of Collection to Gross Customs Revenue Collected, fiscal years, 1868-1930.

NOTE.—Duties on exports were not collected after the year 1892. The figures in this table are the gross figures of duties collected; the net national revenue from customs taxation, because of the drawbacks paid where commodities on which duties have been collected are afterwards exported in a more highly manufactured state, is considerably smaller. For statistics of net customs revenue see Statement of Customs Duties, Table 4, in Chapter XXI on Public Finance.

Fiscal Year.	Duties Collected on Exports.	Duties Collected on Imports.	Percentage of Expense of Collection to Gross Customs Revenue.	Fiscal Year.	Duties Collected on Exports.	Duties Collected on Imports.	Percentage of Expense of Collection to Gross Customs Revenue.
	$	$	p.c.		$	$	p.c.
1868..........	17,986	8,801,446	5·99	1881.........	8,141	18,492,645	3·87
1869..........	14,403	8,284,507	7·09	1882.........	8,810	21,700,028	3·33
1870..........	37,912	9,425,028	5·41	1883.........	9,756	23,162,553	3·26
1871..........	36,066	11,807,590	4·21	1884.........	8,515	20,156,448	3·96
1872..........	24,809	13,020,684	4·04	1885.........	12,305	19,121,254	4·14
1873..........	20,152	12,997,578	4·35	1886.........	20,726	19,427,398	4·10
1874..........	14,565	14,407,318	4·55	1887.........	31,397	22,438,309	3·64
1875..........	7,243	15,354,139	4·44	1888.........	21,772	22,187,869	3·81
1876..........	4,500	12,828,614	5·61	1889.........	42,207	23,742,317	3·62
1877..........	4,103	12,544,348	5·75	1890.........	93,674	23,921,234	3·63
1878..........	4,161	12,791,532	5·58	1891.........	64,803	23,416,266	3·83
1879..........	4,272	12,935,269	5·56	1892.........	108	20,550,474	4·39
1880..........	8,896	14,129,953	5·04				

Fiscal Year.	Duties Collected on Imports.	Percentage of Expense of Collection to Gross Customs Revenue.	Fiscal Year.	Duties Collected on Imports.	Percentage of Expense of Collection to Gross Customs Revenue.	Fiscal Year.	Duties Collected on Imports.	Percentage of Expense of Collection to Gross Customs Revenue.
	$	p.c.		$	p.c.		$	p.c.
1893.....	21,161,711	4·26	1906...	46,671,101	3·31	1919...	158,046,334[1]	3·13
1894.....	19,379,822	4·75	1907... (9 mos.)	40,290,172	3·04	1920...	187,524,182[1]	2·49
1895.....	17,887,269	5·13	1908...	58,331,074	3·30	1921...	179,667,683[1]	3·36
1896.....	20,219,037	4·43	1909...	48,059,792	4·15	1922...	121,487,394[1]	3·22
1897.....	19,891,997	4·73	1910...	61,024,239	3·31	1923...	133,803,370[1]	2·58
1898.....	22,157,788	4·37	1911...	73,312,368	2·98	1924...	135,122,345	2·49
1899.....	25,734,229	4·02	1912...	87,576,037	2·78	1925...	120,222,454	3·09
1900.....	28,889,110	3·71	1913...	115,063,688	2·74	1926...	143,933,111	2·83
1901.....	29,106,980	3·86	1914...	107,180,578	3·59	1927...	158,966,367	2·66
1902.....	32,425,532	3·62	1915...	79,205,910[1]	4·77	1928...	171,872,768	3·09
1903.....	37,110,355	3·31	1916...	103,940,101[1]	3·55	1929...	200,479,505	3·02
1904.....	40,954,349	3·31	1917...	147,631,455[1]	2·54	1930...	199,011,628	3·30
1905.....	42,024,340	3·49	1918...	161,595,629[1]	2·51			

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[1] Includes war tax.

5.—Exports to the United Kingdom, to the United States and to Other Countries, of Merchandise the Produce of Canada, fiscal years, 1868-1930.

Fiscal Year.	Exports to United Kingdom.	Per cent Can. Exports to U.K. to Total Can. Exports. (mdse.)	Exports to United States.	Per cent Can. Exports to U.S. to Total Can. Exports. (mdse.)	Exports to Other Countries.	Total Exports of Canadian Produce.
	$	p.c.	$	p.c.	$	$
1868	17,905,808	36·9	25,349,568	52·3	5,249,433	48,504,809
1869	20,486,389	39·1	26,717,656	51·0	5,196,727	52,400,772
1870	22,512,991	38·1	30,361,328	51·4	6,169,271	59,043,590
1871	21,733,556	37·7	29,164,358	50·6	6,732,110	57,630,024
1872	25,223,785	38·3	32,871,496	49·9	7,735,802	65,831,083
1873	31,402,234	41·0	36,714,144	48·0	8,421,647	76,538,025
1874	35,769,190	46·6	33,195,805	43·3	7,777,002	76,741,997
1875	34,199,134	49·1	27,902,748	40·0	7,607,941	69,709,823
1876	34,379,005	47·4	30,080,738	41·5	8,031,694	72,491,437
1877	35,491,671	52·2	24,326,332	35·8	8,212,543	68,030,546
1878	35,861,110	52·7	24,381,009	35·9	7,747,681	67,989,800
1879	29,393,424	47·1	25,491,356	40·8	7,546,245	62,431,025
1880	35,208,031	48·3	29,566,211	40·6	8,125,455	72,899,697
1881	42,637,219	50·8	34,038,431	40·5	7,269,051	83,944,701
1882	39,816,813	42·3	45,782,584	48·6	8,538,260	94,137,657
1883	39,538,067	45·1	39,513,225	45·1	8,651,139	87,702,431
1884	37,410,870	46·9	34,332,641	43·0	8,089,587	79,833,098
1885	36,479,051	46·1	35,566,810	44·9	7,085,874	79,131,735
1886	36,694,263	47·2	34,284,490	44·1	6,777,951	77,756,704
1887	38,714,331	47·8	35,269,922	43·6	6,976,656	80,960,909
1888	33,648,284	41·3	40,407,483	49·6	7,326,305	81,382,072
1889	33,504,281	41·7	39,519,940	49·2	7,248,235	80,272,456
1890	41,499,149	48·7	36,213,279	42·5	7,545,158	85,257,586
1891	43,243,784	48·8	37,743,430	42·6	7,684,524	88,671,738
1892	54,949,055	55·5	34,666,070	35·0	9,417,341	99,032,466
1893	58,409,606	55·4	37,296,110	35·4	9,783,082	105,488,798
1894	60,878,056	58·6	32,562,509	31·4	10,411,199	103,851,764
1895	57,903,564	56·3	35,603,863	34·6	9,321,014	102,828,441
1896	62,717,941	57·2	37,789,481	34·4	9,200,383	109,707,805
1897	69,533,852	56·2	43,664,187	35·3	10,434,501	123,632,540
1898	93,065,019	64·4	38,989,525	27·0	12,494,118	144,548,662
1899	85,113,681	62·0	39,326,485	29·0	12,920,626	137,360,792
1900	96,562,875	57·1	57,996,488	34·2	14,412,938	168,972,301
1901	92,857,525	52·3	67,983,673	38·3	16,590,188	177,431,386
1902	109,347,345	55·8	66,567,784	34·0	20,104,634	196,019,763
1903	125,199,980	58·4	67,766,367	31·6	21,435,327	214,401,674
1904	110,120,892	55·5	66,856,885	33·7	21,436,662	198,414,439
1905	97,114,867	50·9	70,426,765	36·9	23,313,314	190,854,946
1906	127,456,465	54·1	83,546,306	35·5	24,481,185	235,483,956
1907[1]	98,691,186	54·7	62,180,439	34·4	19,673,681	180,545,306
1908	126,194,124	51·1	90,814,871	36·8	29,951,973	246,960,968
1909	126,384,724	52·1	85,334,806	35·2	30,884,054	242,603,584
1910	139,482,945	50·0	104,199,675	37·3	35,564,931	279,247,551
1911	132,156,924	48·2	104,115,823	38·0	38,043,806	274,316,553
1912	147,240,413	50·7	102,041,222	35·2	40,942,222	290,223,857
1913	170,161,903	47·8	139,725,953	39·3	45,866,744	355,754,600
1914	215,253,969	49·9	163,372,825	37·9	52,961,645	431,588,439
1915	186,668,554	45·6	173,320,216	42·3	49,430,066	409,418,836
1916	451,852,399	60·9	201,106,488	27·1	88,651,751	741,610,638
1917	742,147,537	64·5	280,616,330	24·4	128,611,901	1,151,375,768
1918	845,480,069	54·9	417,233,287	27·0	277,314,432	1,540,027,788
1919	540,750,977	44·5	454,873,170	37·4	220,819,659	1,216,443,806
1920	489,152,637	39·5	464,028,183	37·4	286,311,278	1,239,492,098
1921	312,844,871	26·3	542,322,967	45·6	333,995,863	1,189,163,701
1922	299,361,675	40·4	292,588,643	39·5	148,290,362	740,240,680
1923	379,067,445	40·7	369,080,218	39·6	183,303,780	931,451,443
1924	360,057,782	34·4	430,707,544	41·2	254,585,730	1,045,351,056
1925	395,843,433	37·0	417,417,144	39·0	255,806,766	1,069,067,353
1926	508,237,560	38·6	474,987,367	36·1	332,130,864	1,315,355,791
1927	446,872,851	35·7	466,422,789	37·3	338,861,866	1,252,157,506
1928	410,691,392	33·4	478,145,383	38·9	339,512,568	1,228,349,343
1929	429,730,485	31·5	499,612,145	36·7	434,367,042	1,363,709,672
1930	281,745,965	25·2	515,049,763	46·0	323,462,574	1,120,258,302

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[1] Nine months.

6.—Imports from the United Kingdom, from the United States and from Other Countries, of Merchandise Entered for Home Consumption, fiscal years 1868-1930.

Fiscal Year.	Imports from United Kingdom.	Per cent Imports from U.K. to total Imports. (mdse.)	Imports from United States.	Per cent Imports from U.S. to total Imports. (mdse.)	Imports from Other Countries.	Total Imports for Home Consumption.
	$	p.c.	$	p.c.	$	$
1868	37,617,325	56·1	22,660,132	33·8	6,812,702	67,090,159
1869	35,496,764	56·2	21,497,380	34·0	6,160,797	63,154,941
1870	37,537,095	56·1	21,697,237	32·4	7,667,742	66,902,074
1871	48,498,202	57·6	27,185,586	32·3	8,530,600	84,214,388
1872	62,209,254	59·7	33,741,995	32·1	9,004,118	104,955,367
1873	67,996,945	54·6	45,189,110	36·3	11,323,074	124,509,129
1874	61,424,407	49·9	51,706,906	42·0	10,049,574	123,180,887
1875	60,009,084	51·1	48,930,358	41·7	8,469,126	117,408,568
1876	40,479,253	43·8	44,099,880	47·7	7,933,974	92,513,107
1877	39,331,621	41·8	49,376,008	52·5	5,418,765	94,126,394
1878	37,252,769	41·2	48,002,875	53·1	5,140,207	90,395,851
1879	30,967,778	39·3	42,170,306	53·6	5,564,435	78,702,519
1880	33,764,439	48·3	28,193,783	40·3	7,942,320	69,900,542
1881	42,885,142	47·4	36,338,701	40·6	11,264,486	90,488,329
1882	50,356,268	45·3	47,052,935	42·3	13,735,981	111,145,184
1883	51,679,762	42·4	55,147,243	45·3	15,034,491	121,861,496
1884	41,925,121	39·6	49,785,888	47·0	14,261,969	105,972,978
1885	40,031,448	40·1	45,576,510	45·7	14,147,817	99,755,775
1886	39,033,006	40·7	42,818,651	44·6	14,140,480	95,992,137
1887	44,741,350	42·6	44,795,908	42·6	15,569,952	105,107,210
1888	39,167,644	38·9	46,440,296	46·1	15,063,688	100,671,628
1889	42,251,189	38·7	50,029,419	45·9	16,817,588	109,098,196
1890	43,277,009	38·8	51,365,661	46·0	17,039,903	111,682,573
1891	42,018,943	37·7	52,033,477	46·7	17,481,534	111,533,954
1892	41,063,711	35·7	51,742,132	44·9	22,354,570	115,160,413
1893	42,529,340	36·9	52,339,796	45·4	20,301,694	115,170,830
1894	37,035,963	34·0	50,746,091	46·5	21,288,857	109,070,911
1895	31,059,332	30·9	50,179,004	49·8	19,437,555	100,675,891
1896	32,824,505	31·2	53,529,390	50·8	19,007,266	105,361,161
1897	29,401,188	27·6	57,023,342	53·5	20,193,297	106,617,827
1898	32,043,461	25·4	74,824,923	59·2	19,438,778	126,307,162
1899	36,966,552	24·7	88,506,881	59·2	23,948,983	149,422,416
1900	44,280,041	25·7	102,224,917	59·2	26,146,718	172,651,676
1901	42,820,334	24·1	107,377,906	60·3	27,732,679	177,930,919
1902	49,022,726	25·0	115,001,533	58·4	32,713,545	196,737,804
1903	58,793,038	26·2	129,071,197	57·3	37,230,574	225,094,809
1904	61,724,893	25·3	143,329,697	58·7	38,854,825	243,909,415
1905	60,342,704	24·0	152,778,576	60·6	38,842,934	251,964,214
1906	69,183,915	24·4	169,256,452	59·6	45,299,913	283,740,280
1907[1]	64,415,756	25·8	149,085,577	59·5	36,724,502	250,225,835
1908	94,417,320	26·8	205,309,803	58·2	52,813,756	352,540,879
1909	70,682,600	24·5	170,432,360	59·0	47,479,236	288,594,196
1910	95,337,058	25·8	218,004,556	58·9	56,976,585	370,318,199
1911	109,934,753	24·3	275,824,265	60·8	66,965,585	452,724,603
1912	116,906,360	22·4	331,384,657	63·4	74,113,658	522,404,675
1913	138,742,644	20·7	436,887,315	65·0	95,577,275	671,207,234
1914	132,070,406	21·4	396,302,138	64·0	90,821,454	619,193,998
1915	90,157,204	19·8	297,142,059	65·2	68,656,645	455,955,908
1916	77,404,361	15·2	370,880,549	73·0	59,916,224	508,201,134
1917	107,096,735	12·7	665,312,759	78·6	74,041,384	846,450,878
1918	81,324,283	8·4	792,894,957	82·3	89,313,338	963,532,578
1919	73,035,118	8·0	750,203,024	81·6	96,473,563	919,711,705
1920	126,362,631	11·9	801,097,318	75·3	137,068,174	1,064,528,123
1921	213,973,562	17·3	856,176,820	69·0	170,008,500	1,240,158,882
1922	117,135,343	15·7	515,958,196	69·0	114,710,793	747,804,332
1923	141,330,143	17·6	540,989,738	67·4	120,259,363	802,579,244
1924	153,586,690	17·2	601,256,447	67·3	138,523,730	893,366,867
1925	151,083,946	19·0	509,780,009	64·0	136,068,582	796,932,537
1926	163,731,210	17·6	608,618,542	65·6	154,978,980	927,328,732
1927	163,939,065	15·9	687,022,521	66·6	179,930,919	1,030,892,505
1928	186,435,824	16·7	718,896,270	64·9	203,624,372	1,108,956,466
1929	194,041,381	15·3	868,012,229	68·6	203,625,481	1,265,679,091
1930	189,179,738	15·2	847,442,037	67·9	211,651,807	1,248,273,582

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[1] Nine months.

7.—Percentage Proportions of Imports from United Kingdom and United States respectively, to Totals of Dutiable and Free in the 24 fiscal years 1907-1930.

NOTE.—For the years 1868 to 1906, see Canada Year Book, 1927-28, p. 499.

Fiscal Year.	United Kingdom.			United States.		
	Dutiable to Total Dutiable.	Free to Total Free.	Dutiable and Free to All Imports.	Dutiable to Total Dutiable.	Free to Total Free.	Dutiable and Free to All Imports.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1907 (9 months)	32·05	16·04	25·79	51·93	71·28	50·50
1908	32·64	17·35	26·83	50·59	70·51	58·16
1909	29·84	16·31	24·52	51·76	70·20	59·00
1910	31·60	16·49	25·78	52·29	69·22	58·81
1911	29·82	15·05	24·34	54·14	72·05	60·84
1912	26·69	14·72	22·42	58·72	71·74	73·37
1913	24·47	13·43	20·71	62·57	69·78	65·03
1914	24·95	14·26	21·35	60·81	70·16	63·96
1915	24·31	12·61	19·79	60·27	72·85	65·13
1916	17·97	11·63	15·24	68·93	78·29	72·95
1917	16·35	8·24	12·67	71·91	86·59	78·57
1918	10·70	5·54	8·45	79·61	86·29	82·27
1919	9·50	5·90	7·97	79·10	84·74	81·50
1920	13·44	8·93	11·87	72·04	81·26	75·25
1921	20·07	11·17	17·25	64·19	79·51	69·04
1922	19·20	8·72	15·66	62·97	80·88	69·02
1923	21·61	9·49	17·61	61·85	78·66	67·41
1924	21·32	9·12	17·19	60·20	81·21	67·30
1925	24·16	9·40	18·96	55·63	79·36	64·00
1926	22·83	8·89	17·65	57·97	78·94	65·76
1927	20·44	7·81	15·90	59·52	79·53	66·73
1928	21·13	8·98	16·76	58·59	76·06	64·87
1929	18·82	8·91	15·34	63·82	77·40	68·56
1930	18·15	9·45	15·16	63·88	75·55	67·89

8.—Average ad valorem Rates of Duty Collected on Dutiable and Total Imports from United Kingdom, United States and all Countries in the 63 fiscal years 1868-1930.

Fiscal Year.	U.K.		U.S.		All Countries		Fiscal Year.	U.K.		U.S.		All Countries.	
	Dutiable Imports.	Total Imports.	Dutiable Imports.	Total Imports.	Dutiable Imports.	Total Imports.		Dutiable Imports.	Total Imports.	Dutiable Imports.	Total Imports.	Dutiable Imports.	Total Imports.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.		p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1868	–	–	–	–	20·2	13·1	1899	26·6	19·8	26·3	13·2	28·8	17·2
1869	16·9	13·5	20·1	7·3	20·2	13·1	1900	25·6	18·2	25·0	13·2	27·7	16·7
1870	16·8	13·4	19·5	7·8	20·9	14·1	1901	24·7	18·3	24·8	12·4	27·5	16·4
1871	16·4	13·5	16·3	8·4	19·6	14·0	1902	24·0	17·2	25·2	13·2	27·3	16·5
1872	16·4	12·7	18·0	7·1	19·1	12·4	1903	23·3	16·7	24·9	13·3	27·1	16·5
1873	15·6	10·9	17·7	6·5	18·3	10·4	1904	24·1	17·6	25·2	13·6	27·5	16·8
1874	16·5	12·8	17·4	7·1	18·9	11·7	1905	24·8	18·5	26·1	13·5	27·8	16·7
1875	18·1	14·8	17·3	7·9	19·6	13·1	1906	24·6	18·7	24·8	13·1	27·0	16·4
1876	18·8	15·0	19·2	9·3	21·3	13·9	1907 (9 m.)	24·3	18·4	24·2	12·8	26·5	16·1
1877	19·4	16·2	18·7	7·9	20·6	13·3	1908	24·2	18·3	24·6	13·2	26·7	16·5
1878	20·1	17·3	20·4	9·4	21·4	14·2	1909	25·8	19·0	24·9	13·2	27·5	16·7
1879	20·5	18·0	23·2	13·1	23·3	16·4	1910	25·1	18·9	24·8	13·5	26·8	16·5
1880	24·0	20·0	23·1	16·0	26·1	20·2	1911	24·6	18·9	24·7	13·7	25·9	16·2
1881	24·5	20·5	22·0	15·5	25·8	20·4	1912	25·0	19·1	25·0	14·8	26·1	16·8
1882	24·1	19·9	21·5	15·0	25·3	19·5	1913	25·1	19·6	24·9	15·8	26·1	17·1
1883	24·3	19·2	21·1	14·8	25·3	19·0	1914	25·2	19·5	24·8	15·6	26·1	17·3
1884	24·4	19·1	20·7	14·9	25·2	19·0	1915	27·1	20·5	25·1	14·2	27·4	16·8
1885	24·8	19·0	21·2	14·5	26·1	19·2	1916	28·4	19·1	25·0	13·5	27·2	15·5
1886	25·7	20·0	22·8	15·8	27·5	20·2	1917	24·9	17·6	22·7	11·4	23·8	13·0
1887	26·1	20·8	23·8	16·2	28·7	21·3	1918	24·3	17·3	20·5	11·1	21·5	12·1
1888	29·1	22·9	26·2	15·3	31·8	22·0	1919	22·3	15·3	20·9	11·6	21·5	12·3
1889	29·3	22·4	25·4	14·7	31·9	21·8	1920	22·1	16·2	22·5	14·0	22·5	14·7
1890	28·8	22·1	26·6	15·8	31·0	21·4	1921	20·9	16·6	20·3	12·9	20·6	14·1
1891	29·0	21·7	26·0	14·9	31·4	21·0	1922	24·8	20·1	23·0	13·9	24·5	16·2
1892	29·4	22·1	26·5	16·1	29·7	17·8	1923	24·5	20·1	22·5	13·8	24·9	16·7
1893	29·8	22·3	26·7	14·6	30·3	18·4	1924	22·3	18·3	22·3	13·2	22·9	15·1
1894	30·0	22·3	27·0	13·7	30·9	17·8	1925	22·1	18·2	23·1	13·0	23·3	15·1
1895	30·1	22·6	26·7	13·7	30·5	17·8	1926	21·6	18·4	23·9	13·2	24·7	15·5
1896	30·2	22·4	26·7	14·5	30·0	19·2	1927	23·9	19·7	23·1	13·2	24·1	15·4
1897	30·7	21·1	26·7	14·3	30·0	18·7	1928	25·6	20·6	23·3	13·5	24·2	15·5
1898	29·5	20·8	26·1	13·3	29·7	17·5	1929	25·9	20·6	23·4	14·1	24·4	15·8
							1930	25·5	20·0	23·3	14·4	24·3	15·9

9.—Imports for Home Consumption of certain Raw Materials Used in Canadian Manufactures, fiscal years, 1911-1930.

NOTE.—For the years 1902 to 1910, see Canada Year Book, 1926, p. 463.

Fiscal Year.	Iron Ore.	Crude Petroleum for Refining.[1]	Rags, Waste Paper and other Waste.	Tin in Blocks, Ingots, etc.	Hides and Skins.	Sugar, raw.	Tobacco, raw.	Vegetable Oil for Soap Industry.
	ton.	gal.	cwt.	cwt.	$	ton.	lb.	gal.
1911.......	-	54,310,597	536,604	35,706	8,105,330	271,532	17,204,271	297,338
1912.......	-	72,231,006	564,296	41,740	8,903,727	281,402	17,203,513	407,825
1913.......	2,116,933	143,338,070	750,003	51,319	13,486,459	310,101	22,153,588	393,239
1914.......	1,972,207	177,879,835	716,882	46,076	8,831,010	347,168	17,598,449	393,862
1915.......	1,055,724	196,203,287	540,922	29,402	12,842,558	335,820	18,595,957	411,797
1916.......	1,595,995	186,753,081	510,472	32,756	12,441,731	298,433	20,834,672	615,923
1917.......	2,318,547	135,533,089	780,062	35,726	12,873,970	365,772	17,702,637	1,267,174
1918.......	2,203,506	191,376,057	505,643	38,683	8,796,966	382,807	17,824,947	2,081,672
1919.......	2,227,919	260,819,944	570,211	28,044	5,427,544	359,470	25,103,080	2,390,107
1920.......	1,632,011	298,540,725	826,593	44,010	22,654,661	540,787	24,345,295	861,462
1921.......	1,950,291	311,719,057	1,142,850	42,727	10,652,787	347,504	20,007,411	1,103,672
1922.......	656,902	391,292,960	686,483	27,242	5,898,087	432,212	20,870,509	1,342,390
1923.......	1,044,999	397,603,716	870,542	39,258	7,947,410	571,728	14,548,694	1,928,386
1924.......	1,807,223	418,791,375	1,123,282	39,837	461,581 [2]	419,710	15,941,339	1,886,162
1925.......	911,586	440,671,846	1,232,567	43,535	502,586 [2]	419,371	13,712,885	1,692,744
1926.......	1,053,593	470,616,511	1,307,473	44,409	534,089 [2]	579,272	14,943,864	2,591,232
1927.......	1,445,504	596,466,714	1,364,897	50,858	579,085 [2]	564,779	17,446,774	3,177,800
1928.......	1,491,234	709,959,837	1,371,469	48,742	678,670 [2]	447,389	18,475,772	3,377,856
1929.......	2,272,130	865,335,849	1,314,494	58,928	507,773 [2]	409,585	18,726,618	3,241,587
1930.......	2,456,919	1,110,169,704	1,606,931	56,318	486,442 [2]	402,871	17,113,472	2,874,972

Fiscal Year.	Noils and Worsted Tops.	Silk, raw, etc.	Manila Grass and Sisal.	Cotton, raw. (including Linters.)	Hemp, dressed or undressed.	Wool, raw.	Raw Rubber, including Balata.	Crude Cotton-seed Oil.
	$	lb.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
1911.......	778,320	121,748	272,638	812,622	81,017	64,224	28,035	-
1912.......	689,304	112,581	290,362	727,939	82,661	71,954	44,313	80,916
1913.......	980,432	75,776	343,644	774,578	64,990	92,092	56,755	243,872
1914.......	1,072,066	101,669	189,010	769,930	55,572	72,521	44,504	265,789
1915.......	1,312,885	94,458	283,660	730,325	55,370	131,940	65,045	293,849
1916.......	2,587,949	80,745	382,233	969,679	50,914	211,407	99,132	430,013
1917.......	2,988,177	138,765	323,441	877,634	15,846	145,812	107,580	315,621
1918.......	4,418,854	158,648	491,739	880,374	45,177	115,380	130,956	408,850
1919.......	5,314,793	213,441	314,150	1,117,235	72,887	158,767	192,272	459,685
1920.......	5,847,787	298,985	453,853	964,715	46,553	117,717	244,335	578,986
1921.......	5,533,108 [3]	272,508	453,754	986,315	47,090	92,772	228,062	417,301
1922.......	7,225,381 [3]	371,570	187,521	953,860	77,833	125,867	189,525	488,683
1923.......	9,110,310 [3]	368,026	216,818	1,252,615	203,844	182,556	253,957	258,381
1924.......	8,606,179 [3]	335,495	268,722	955,966	340,402	193,217	288,857	216,082
1925.......	5,823,112 [3]	361,403	255,317	1,008,793	249,032	143,629	344,509	213,201
1926.......	6,142,081 [3]	529,446	439,699	1,355,738	281,639	134,344	469,893	335,755
1927.......	7,887,487 [3]	679,923	519,807	1,497,438	123,426	164,234	502,312	297,706
1928.......	8,133,120 [3]	938,459	524,124	1,462,246	99,503	138,957	582,039	623,148
1929.......	8,646,998 [3]	1,282,815	745,831	1,511,270	27,390	140,219	777,169	302,197
1930.......	6,293,863 [3]	1,668,972	459,588	1,260,699	42,620	103,343	733,400	400,853

[1] Prior to 1917 includes all crude petroleum. [2] Cwt. [3] Pounds.

10.—Exports to the United Kingdom, to the United States, and to All Countries, by Classes of Merchandise, the Produce of Canada, by Values and Percentages, fiscal years 1927-1930.

VALUES.

Class.	1927.			1928.			1929.			1930.		
	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.
	$	$	$	$	$	$	$	$	$	$	$	$
Vegetable products (except chemicals, fibres and wood)	330,070,229	59,956,933	574,994,162	310,210,731	56,099,402	555,110,598	325,105,581	58,527,194	646,514,058	186,521,591	48,626,508	384,635,751
Animals and their products (except chemicals and fibres)	67,819,473	75,320,135	167,291,589	48,683,290	92,244,088	165,845,096	47,644,803	84,993,501	158,757,272	40,673,780	66,894,165	133,009,145
Fibres, textiles and textile products	860,030	3,451,081	7,665,563	1,896,794	4,922,004	10,904,073	810.836	4,930,498	9.678,019	976,568	3,961,130	9,066,226
Wood, wood products and paper	15,835,904	242.019,601	284.120,267	17,171.311	238.986,005	284,543,396	22,350.947	235,665,010	288.621,745	21,450,183	237,669,413	289,566,675
Iron and its products	8,129,365	10,680,762	74,284,824	8,195,972	8,831,287	62,753,934	8,721,020	11,157,421	82,256,717	6,848,000	11,635,491	78,589,580
Non-ferrous metals and their products	14,174,289	39,007,020	80,639,197	15,696,472	44,114,499	90,840.441	16,347,438	63.221,555	112,778,194	15,404,362	101,728,976	154,319,429
Non-metallic minerals and their products (except chemicals	2,324,119	17,622,308	28,880,831	1,933,969	16,178,552	25,949,930	1,771,253	17,994,515	27,401,790	1,952,156	18,662,256	28,545,096
Chemicals and allied products	3,567,256	7,721.388	16,203,760	4,234,278	8,150.913	17,365,516	4,036,885	10,779,475	19,438,064	4,888,740	12,535.510	22,468,462
Miscellaneous commodities	4,092,186	10,643,561	18,077,313	2,668,575	8,618,633	15.036,359	2,941,722	12,342,976	18,263,813	3,030,584	13,336,314	20,057,938
Totals	**446,872,851**	**466,422,789**	**1,252,157,506**	**410,691,392**	**478,145,383**	**1,228,349,343**	**429,730,485**	**499,612,145**	**1,363,709,672**	**281,745,965**	**515,049,763**	**1,120,258,302**

PERCENTAGES OF EACH CLASS.

Class.	1927.			1928.			1929.			1930.		
	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Vegetable products (except chemicals, fibres and wood)	73·86	12·86	45·92	75·53	11·73	45·20	75·65	11·71	47·41	66·18	9·49	34·33
Animals and their products (except chemicals and fibres)	15·18	16·14	13·36	11·86	19·30	13·50	11·09	17·02	11·64	14·43	12·98	11·87
Fibres, textiles and textile products	0·19	0·74	0·61	0·46	1·03	0·89	0·19	0·99	0·71	0·35	0·77	0·81
Wood. wood products and paper	3·54	51·90	22·69	4·18	49·98	23·16	5·20	47·16	21·16	7·64	46·10	25·84
Iron and its products	1·82	2·29	5·94	2·00	1·85	5·11	2·03	2·23	6·03	2·43	2·26	7·02
Non-ferrous metals and their products	3·17	8·36	6·44	3·82	9·23	7·40	3·80	12·66	8·27	5·46	19·76	13·78
Non-metallic minerals and their products (except chemicals)	0·52	3·78	2·30	0·47	3·38	2·11	0·41	3·60	2·01	0·69	3·62	2·55
Chemicals and allied products	0·80	1·65	1·30	1·03	1·70	1·41	0·94	2·16	1·43	1·74	2·43	2·01
Miscellaneous commodities	0·92	2·28	1·44	0·65	1·80	1·22	0·69	2·47	1·34	1·08	2·59	1·79
Totals	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**

11.—Imports from the United Kingdom, from the United States and from All Countries, by Classes of Merchandise Entered for Home Consumption, by Values and Percentages, fiscal years 1927-1930.

VALUES.

Class.	1927.			1928.			1929.			1930.		
	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.
	$	$	$	$	$	$	$	$	$	$	$	$
Agricultural and vegetable products (except chemicals, fibres and wood)..........	38,254,029	97,104,543	213,098,121	51,133,838	102,209,033	238,185,560	53,670,561	103,667,472	233,130,244	51,279,282	98,752,133	227,048,817
Animal products (except chemicals and fibres).....	5,404,629	35,437,384	53,214,135	6,090,435	40,582,857	65,790,021	5,664,451	42,654,255	71,661,754	5,288,528	37,388,126	69,853,833
Fibres, textiles and textile products..................	72,752,164	66,925,517	183,583,931	71,464,176	69,430,521	186,994,462	77,021,060	81,889,787	206,439,173	68,243,821	71,997,597	185,241,252
Wood, wood products and paper....................	3,918,098	41,122,392	47,962,298	4,360,348	43,992,228	51,750,924	4,935,029	50,564,294	59,214,818	5,250,702	51,736,243	60,951,077
Iron and its products........	15,008,951	206,655,021	229,429,485	17,725,749	233,991,420	259,575,020	18,997,316	317,089,125	346,615,810	21,639,945	284,164,438	316,878,627
Non-ferrous metals and their products.................	5,642,570	42,224,587	52,747,842	6,334,885	47,845,775	60,190,036	6,653,832	62,104,988	75,438,431	7,504,415	73,738,731	87,950,252
Non-metallic minerals and their products (except chemicals)...............	9,253,721	131,955,558	156,784,707	14,467,621	117,447,997	153,049,438	12,100,661	135,154,049	166,964,231	13,601,753	149,293,985	186,496,388
Chemicals and allied products....................	4,907,477	20,623,830	31,844,715	4,422,349	22,246,232	33,572,113	4,963,687	26,202,978	37,723,046	5,428,765	26,982,460	39,907,503
Miscellaneous commodities.	8,797,426	44,973,689	62,227,271	10,436,423	41,150,207	59,848,892	10,034,784	48,685,281	68,491,584	10,942,527	53,388,324	73,945,833
Totals.................	**163,939,065**	**687,022,521**	**1,030,892,505**	**186,435,824**	**718,896,278**	**1,108,956,466**	**194,041,381**	**868,012,229**	**1,265,679,091**	**189,179,738**	**847,442,037**	**1,248,273,582**

PERCENTAGES OF EACH CLASS.

Class.	1927.			1928.			1929.			1930.		
	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.
	$	$	$	$	$	$	$	$	$	$	$	$
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Agricultural and vegetable products (except chemicals fibres and wood)	23·33	14·14	20·67	27·42	14·22	21·49	27·67	11·95	18·42	27·11	11·65	18·20
Animal products (except chemicals and fibres)	3·30	5·16	5·16	3·27	5·64	5·93	2·92	4·92	5·66	2·80	4·41	5·59
Fibres, textiles and textile products	44·28	9·74	17·81	38·34	9·65	16·86	39·69	9·44	16·32	36·08	8·50	14·85
Wood, wood products and paper	2·39	5·98	4·65	2·34	6·12	4·67	2·54	5·82	4·68	2·77	6·11	4·88
Iron and its products	9·16	30·08	22·25	9·51	32·56	23·40	9·79	36·52	27·38	11·44	33·53	25·38
Non-ferrous metals and their products	3·44	6·15	5·12	3·40	6·66	5·42	3·43	7·15	5·96	3·96	8·70	7·04
Non-metallic minerals and their products (except chemicals)	5·64	19·21	15·21	7·76	16·34	13·80	6·24	15·57	13·19	7·19	17·62	14·94
Chemicals and allied products	2·99	3·00	3·09	2·37	3·09	3·03	2·55	3·02	2·98	2·87	3·18	3·20
Miscellaneous commodities	5·37	6·54	6·04	5·59	5·72	5·40	5·17	5·61	5·41	5·78	6·30	5·92
Totals	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**

12.—Principal Exports of Canadian Produce from Canada to United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	I. Agricultural and Vegetable Products.					
	A. MAINLY FOOD.					
	Fruits—					
	Fresh—					
1	Apples	brl.	944,152	800,515	866,003	1,558,375
		$	4,191,645	3,568,018	3,884,822	6,626,009
2	Berries	$	-	414	186	2,555
3	Canned or preserved	lb.	4,168,820	5,600.989	4,731,935	3,842,377
		$	326,605	435,079	353,143	288,360
4	Juices and syrups, n.o.p	gal.	325,366	227,076	308,069	318,839
		$	268,159	172.998	202,627	210,709
	Totals, Fruits[1]	$	4,867,120	4.247,108	4,530,321	7,193,230
	Vegetables—					
	Fresh—					
5	Beets, sugar	ton	-	-	-	-
		$	-	-	-	-
6	Potatoes	bush.	-	-	-	-
		$	-	-	-	-
7	Turnips	bush.	-	-	-	-
		$	-	-	-	-
8	Canned	lb.	8,479,009	13,047,554	14,075,970	6,400,027
		$	618,862	916,544	1,019,899	408,196
9	Pickles	$	549,117	814,275	433,657	549,668
	Totals, Vegetables[1]	$	1,168,186	1,730,977	1,453,899	957,874
	Grains and Farinaceous Products—					
	Grains—					
10	Barley	bush.	26,262,336	19,209,599	25,960,614	11,301,028
		$	16,138,117	15,329,821	17,552,851	7,560,339
11	Beans	bush.	666	1,000	88	38
		$	2,772	600	418	260
12	Buckwheat	bush.	92,765	78,949	205,052	12,595
		$	74,088	62,787	180,313	10,302
13	Oats	bush.	6,757,348	2,439,966	6,298,471	2,373,314
		$	3,674.015	1,395,242	4,043,185	1,452,935
14	Peas, whole	bush.	29,061	31,562	19,866	5,695
		$	106,270	108,333	83,129	26,160
15	Rye	bush.	5,512,811	4,703,076	4,646,828	358,088
		$	4,991,581	4,505,120	5,368,687	286,074
16	Wheat	bush.	179,985,704	188,657,268	229,801,402	113,224,273
		$	251,907,138	244,816,036	260,008,624	139,798,345
	Totals, Grains[1]	$	276,922,802	266,221,508	287,246,190	149,138,627
	Milled products—					
17	Bran, shorts and middlings	cwt.	1,020	5,582	1,680	88,043
		$	1,965	9,421	3,101	114,339
18	Oatmeal	cwt.	309,074	274,338	388,055	331,390
		$	1,043,283	1,480,538	2,072,979	2,010,839
19	Wheat flour	brl.	3,589,007	3,072,494	2,775,924	2,278,916
		$	24,614,968	20,247,022	16,971,984	14,077,257
	Totals, Milled Products[1]	$	26,067,511	21,772,001	19,068,560	16,227,816
20	Cereal foods, prepared	$	1,843,104	2.022,669	2,176,645	2,384,994
	Totals, Grains and Farinaceous Products[1]	$	304,843,850	90,031,612	308,553,517	167,762,533
	Sugar and Its Products—					
21	Candy	lb.	14,774	49,198	7,750	5,176
		$	6,542	15,030	3,129	2,568
22	Maple sugar and syrup	$	7,991	11,623	13,207	8,147
23	Sugar, n.o.p	cwt.	1,729,435	651.236	127,609	-
		$	8,762,324	2,727,722	621,186	-
	Totals, Sugar and Its Products[1]	$	9,040,279	3,046,085	733,086	125,868
24	Hops	lb.	257,057	843,162	307,240	232,272
		$	85,323	226,175	90,189	62,704
	Totals, Agricultural and Vegetable Products —A. MAINLY FOOD[1]	$	**320,012,173**	**299,314,264**	**315,417,085**	**176,132,354**

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
32,827	57,263	48,089	115,007	1,038,768	934,389	1,080,527	1,882,280	1
167,172	281,618	252,508	526,410	4,670,091	4,243,786	4,867,180	8,111,943	
466,061	420,102	279,359	490,716	466,425	420,673	282,384	493,618	2
1,325,644	100,604	19,634	167,345	5,974,479	6,331,597	5,085,895	4,254,466	3
133,806	10,359	2,375	15,108	486,468	504,300	390,087	331,242	
43,469	8,494	10,564	6,408	414,178	260,746	346,664	367,244	4
85,996	5,045	5,793	3,818	399,237	207,432	243,763	252,758	
904,516	751,870	567,490	1,080,219	6,315,217	5,683,145	5,917,152	9,593,484	
63,580	53,225	40,646	42,772	63,580	53,225	40,646	42,772	5
395,966	323,683	245,521	241.860	395,966	323,683	245,521	241,860	
6.220,899	5,193,680	1,873,317	5,393,657	8,310,080	7,744,960	4,949,156	7,957,568	6
6,673,220	4,593,441	1,140,731	5,557,551	9,717,425	7,338,906	3,083,452	8,042,226	
2,038.770	2,617,847	2,829,596	2,668,696	2,049,849	2,630,958	2,852,171	2.682,299	7
661,161	703,688	626,872	1,088,618	665,272	708,548	633,485	1,094,668	
34,290	1,520	3,947,976	8,778,407	9,667,014	14,172,410	20,696,134	17,249.042	8
2,459	197	215,501	435,727	704,391	1,005,280	1,423,061	994,794	
18,926	31,384	16,590	12.252	592,317	870,088	486,824	589,490	9
7.865,695	5,811,009	2,411,458	7,547,813	12,340,934	10,474,192	6,083,673	11,240,747	
5,629	13,262	67,816	88,425	38,943,642	28.829,250	35,699,767	14,817,071	10
23,069	8,079	29,048	69,949	25,875,024	23,472,798	25,743,971	10,388,735	
20,770	118,735	44,324	218,277	22,251	120,386	45,976	222,047	11
62,434	420,455	207,387	742,904	67,387	422,842	214,645	758.505	
61,372	83,013	59,051	155,595	319,383	349,535	402,358	186,558	12
48,343	67,919	53,203	137,273	253,710	284,385	361,616	165,491	
536,792	876,284	31,662	33,988	15,438,329	7,158,723	15,657,348	6,406,181	13
255,984	501,719	22,611	20,150	8,598,755	4,275,353	10,241,938	4,055,855	
106,714	127,968	35,157	25,491	146,887	175,095	66,093	37,230	14
257,587	272,425	117,743	99,143	395,551	432,341	230,158	143,310	
4,960	1,522	–	42	6,495,384	10,424,643	9,456,512	1,526,368	15
4,088	1,215	–	45	6,050,140	10,648,740	10,809,020	1,451,640	
8,212,019	7,503,681	10,634,834	6,804,099	248,497,482	266,902.189	370,459,551	177,006,369	16
11,177,835	9,503,662	12,380,823	7,487,014	353,094,940	352,117,150	428,524,326	215,753,475	
11,817,384	10,780,819	12,816,939	8,557,205	394,423,836	391,695,566	476,186,733	232,763,740	
1,524,410	1,829,215	3,562,618	1,834,712	1,598,806	1,905,875	3,645,819	1,988,356	17
1,905,776	2,626,457	5,351,954	2,362,814	2,017,558	2,750,196	5,496,024	2,582,484	
4,888	–	13	3	367,448	345,565	598,412	407.050	18
17,325	–	86	15	1,624,029	1,799,408	3,073,375	2,440,968	
11,639	7,111	2,073	1,962	10,147,705	9,387,273	11,405,728	7,893,960	19
83,576	46,357	13,217	12,502	68,720,334	59,879,302	65,117,779	45,457,195	
2,008,677	2,674.584	5,367,586	2,377,666	72,464,181	64,504,395	73,796,136	50,549,600	
5,738	3,464	6,692	8,782	1,895,259	2,059,161	2,238,690	2,431,137	20
14,431,534	14,225,096	19,265,799	11.981,893	469,783,504	459,310,260	553,587,951	287,047,429	
12,060	3,567	10,345	2,139	1,616.078	1,569,366	1,681,007	1,858,519	21
6,132	1,277	4,529	703	498.590	489,988	501,255	526,776	
704,444	1,165,389	1,350,140	2,404.016	716,941	1,178,685	1,365,927	2,415,087	22
17,786	5,623	216	16,029	2,941,100	1,294.095	419,950	294,823	23
105,824	37,506	1,045	79,646	15,116,239	6,260,983	2,176,348	1,423,936	
906,008	1,274,301	1,422,954	2,648,605	16,768,728	8,407,424	4,329,822	4,798,712	
–	1,912	417	–	257,897	868,877	322,039	250.723	24
–	765	58	–	85,365	230,115	92,505	64,561	
24,169,866	**22,119,116**	**23,710,93**	**23,312,016**	**595,591,701**	**484,316,535**	**570,253,275**	**313,005,456**	

12.—Principal Exports of Canadian Produce from Canada to United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	I. Agricultural and Vegetable Products—con.					
	B. OTHER THAN FOOD.					
	Beverages—					
1	Brewed (ale, beer)	gal.	–	–	–	–
		$	–	–	–	–
	Distilled—					
2	Whiskey	gal.	31,623	47,984	20,829	30,676
		$	148,239	123,796	85,758	95,005
3	Other	gal.	13,934	14	11	9,999
		$	34.883	40	60	35,436
4	Fermented (wines)	gal.	128	178	133	164
		$	224	336	214	247
	Totals, Beverages	$	183,363	124,172	86,032	130,688
5	Oil cake and meal	cwt.	13,440	16,800	12,880	1,680
		$	29,771	36,009	30,540	4,580
	Rubber—					
6	Raw and waste	$	–	–	802	3,202
7	Belting	lb.	124,547	154,609	218,418	384,775
		$	59,168	47,564	75,076	126,297
8	Boots and shoes	$	2,463,777	2,354,336	3,257,835	3,370,191
9	Hose	$	33,886	35,459	29,979	30,961
10	Tires	$	3,554,055	3,750,861	1,264,697	453,583
11	Other manufactures	$	160,027	552,271	1,095,842	2,589,601
	Totals, Rubber	$	6,270,913	6,740,491	5,724,231	6,573,835
	Seeds—					
12	Clover	bush.	36,150	36,494	21,169	41,794
		$	498,820	395,906	229,379	325,075
13	Flaxseed	bush.	3	1,211	1,164	2,937
		$	18	4,320	4,656	12,336
	Totals, Seeds[1]	$	537,637	422,232	269,986	375,300
	Tobacco—					
14	Unmanufactured	lb.	6,308,093	6,054,907	6,247,871	5,293,167
		$	2,562,918	2,212,474	1,926,085	1,389,334
15	Fodders, n.o.p	$	132,023	707,664	999,156	322,326
16	Hay	ton	20,110	58,400	47.621	105,184
		$	241,213	584,414	496,307	1,398,781
17	Senega root	lb.	77,304	4.836	100,942	183.683
		$	53,574	4,938	115,973	160,595
	Totals, Agricultural and Vegetable Products —B. OTHER THAN FOOD[1]	$	**10,058,056**	**10,896,467**	**9,688,496**	**10,389,237**
	Totals, Agricultural and Vegetable Products	$	**330,070,229**	**310,210,731**	**325,105,581**	**186,521,591**
	II. Animals and Animal Products.					
	Animals, Living—					
18	For exhibition	$	–	–	7,050	150
19	For improvement of stock	$	5,204	1,592	435	1,022
	Other—					
20	Cattle, 1 year or less	No.	–	–	–	–
		$	–	–	–	–
21	Cattle more than 1 year old	No.	61,671	1,222	405	–
		$	6,338,395	130,140	61,770	–
22	Horses	No.	25	4	2	7
		$	18,775	11,900	250	1,700
23	Poultry	No.	–	–	–	–
		$	–	–	–	–
24	Sheep	No.	–	–	–	–
		$	–	–	–	–
25	Swine	No.	–	–	–	–
		$	–	–	–	–
26	Foxes	No.	31	25	121	200
		$	18,600	11,180	34,950	53,820
	Totals, Animals, Living[1]	$	6,382.101	156,250	110,580	66,821
27	Bones, horns and hoofs	$	–	–	493	–

[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
4,223,987	3,799,170	4,092,113	1,449,122	4,252,583	3,825,003	4,110,698	1,481,215	1
5,524,704	5,376,633	5,588,870	1,959,477	5,554,092	5,401,429	5,608,366	1,995,990	
1,000,165	1,128,152	1,126,399	1,050,681	1,526,642	1,800,710	2,355,431	2,904,579	2
16,148,701	18,380,070	18,111,595	16,405,341	18,712,574	21,484,730	24,122,725	25,856,136	
26,752	20,420	17,730	25,508	56,523	25,379	34,112	70,243	3
371,983	270,371	231,642	368,281	452,190	292,147	267,160	477,031	
33,179	30,647	38,722	35,487	34,179	32,184	40,046	36,598	4
116,982	105,384	118,591	113,198	119,197	108,831	120,656	115,081	
22,162,370	24,132,188	24,050,698	18,846,297	24,838.053	27,287,137	30,118,907	28,444,238	
185,794	258,766	285,367	443,615	382,418	474,352	425,527	530,229	5
389,558	565,537	692,577	1,086,558	826,907	1,057,740	1,047,993	1,302,956	
294,256	270,767	242,108	211,724	296,787	281,389	258,835	231,658	6
1,450	–	100	26	1,067,573	1,247,676	1.170,700	1,565,596	7
896	–	61	20	547,031	495,013	450,956	595,072	
1,943	2,052	3,284	728	6,374,621	6,348,022	8,589.849	9,986,392	8
71,843	59,228	61,625	48,249	279,489	250,325	268,698	269,196	9
97,396	26,933	29,576	34,953	18,565,909	20,274,337	19,433,153	18,153,225	10
40,535	20,479	10,377	16,709	631,666	976,865	1,581,023	3,012,810	11
507,869	379,459	347,031	312,383	26,695,503	28,625,951	30,582,514	32,248,353	
332,069	223,602	176,838	109,055	383,347	290,424	216,722	165,798	12
3,041,947	1,997,099	1,529,144	872,623	3,760.936	2,702,014	1,890,451	1,316,752	
2,664,070	2,170,096	3,027,155	769,894	2,664,073	2.171,779	3,028,329	772,831	13
5,371,812	4,290,900	5,740,716	1,719,751	5,371,830	4,296,570	5,745,397	1,732,087	
8,587,538	6,438,845	7,503,126	2,709,119	9,383,239	7,196,438	7,944,625	3,237,744	
8,648	6,660	5,388	5,254	6,330,972	6,079,606	6,583,676	6,811,391	14
2,909	2,358	2.120	1,264	2,569,300	2,215,916	1,954,482	1,504,264	
585,473	617,285	823,693	934,223	843,534	1,515,856	2,071,822	1,446,677	15
283,402	95,826	50,433	35,719	321,733	171,164	113,763	162,188	16
2.775,177	899,291	440,427	321.854	3,246,170	1,684,100	1,127,270	2,007,944	
34,690	209,244	260,178	468,512	212,850	271,885	524,119	728.221	17
20,902	218,415	283,434	432,776	140,873	278,157	593,017	660.284	
35,787,067	**33,989,286**	**34,816,264**	**25,314,492**	**69,492,461**	**70,794,063**	**76,269,783**	**71,630,301**	
59,956,933	**56,099,402**	**58,527,194**	**48,626,508**	**574,994,162**	**555,110,598**	**646,514,058**	**384,635,751**	
357,598	443,017	384,335	273,441	357,598	443,017	392,435	277,959	18
486,991	836,081	693,749	816,045	520,914	878,328	735,245	864,389	19
64.608	78,280	76,720	85,226	64,905	78,671	76,989	85,700	20
1,083,290	1,590,714	1,919,420	2,066,048	1,086,154	1,593,495	1,922,311	2,070.884	
89.003	200.013	157,731	147,045	153,977	204,668	160,411	149,463	21
3,543,005	11,253,203	11,987,127	10,142,460	10.080,373	11.571,796	12,182,519	10,300,003	
704	449	545	672	2,017	3,547	920	1,165	22
109,605	79,835	104,901	108,619	275,536	309,326	166,251	179,520	
849,511	676,785	674,061	660,222	850,901	677,919	676,239	662,291	23
750,838	579,239	591,631	543,938	752,593	580,333	594,064	546,504	
17,454	15,907	9,694	4,432	18,780	17,333	10.559	5,531	24
127.777	149,714	114.082	49,300	138,336	160,535	121,481	58.851	
173,072	116,581	6,758	1.793	174,670	119,000	9,298	3.730	25
3,872,322	2,274.244	111,739	44,711	3,890,413	2,296,931	131,983	63.550	
3,276	2,276	788	587	3,908	3,806	2,409	4,265	26
619,892	435,287	144,544	99,554	880,767	979,337	624,954	1,141,264	
11,046,994	17,745,664	16,154,716	14,264,837	18,082,832	18,929,781	17,034,157	15,771,020	
84 677	132,772	91,156	92,896	86,248	133.601	96.651	94,046	27

12.—Principal Exports of Canadian Produce from Canada to United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	II. Animals and Animal Products—continued.					
	Fishery Products, n.o.p.—					
	Fish—					
	Fresh—					
1	Halibut	cwt.	–	–	499	–
		$	–	–	5,000	–
2	Herrings	cwt.	–	–	–	–
		$	–	–	–	–
3	Lobsters	cwt.	–	–	–	–
		$	–	–	–	–
4	Salmon or lake trout	cwt.	–	–	–	–
		$	–	–	–	–
5	Mackerel	cwt.	–	–	–	–
		$	–	–	–	–
6	Salmon	cwt.	14,303	11,110	15,126	21,935
		$	334,881	257,839	277,366	454,112
7	Smelts	cwt.	–	–	–	–
		$	–	–	–	–
8	Tullibee	cwt.	–	252	–	–
		$	–	2,520	–	–
9	Whitefish	cwt.	–	–	–	–
		$	–	–	–	–
	Totals, Fish, Fresh[1]	$	356,220	260,804	283,247	454,126
	Canned—					
10	Clams	cwt.	–	–	7	10
		$	4	–	122	157
11	Codfish, boneless	cwt.	–	–	11	–
		$	–	–	140	–
12	Lobsters	cwt.	28,218	25,131	22,971	28,650
		$	1,922,019	1,720,888	1,453,569	1,765,971
13	Salmon	cwt.	127,751	136,947	103,857	90,829
		$	3,232,756	3,401,204	1,902,627	1,857,726
14	Sardines	cwt.	–	292	52	200
		$	–	2,609	472	1,920
	Totals, Fish, Canned[1]	$	5,156,573	5,124,701	3,357,935	3,625,958
	Dried, Salted, Smoked or Pickled—					
15	Codfish, dried	cwt.	862	3,589	8,086	629
		$	8,226	29,058	65,830	6,657
16	Codfish, pickled	cwt.	2	–	–	–
		$	10	–	–	–
17	Codfish, smoked	cwt.	–	–	–	–
		$	–	–	–	–
18	Haddock	cwt.	8	10	–	35
		$	37	81	–	352
	Herring, sea—					
19	Dry-salted	cwt.	–	–	–	–
		$	–	–	–	–
20	Pickled	cwt.	–	–	–	–
		$	–	–	–	–
21	Smoked	cwt.	20	25	15	20
		$	140	188	65	150
22	Mackerel, pickled	cwt.	–	–	–	–
		$	–	–	–	–
23	Pollock, hake and cusk, dried	cwt.	–	–	–	4
		$	–	–	–	16
24	Salmon, dry-salted (chum)	cwt.	–	–	2	–
		$	–	–	30	–
25	Salmon, pickled	cwt.	628	150	831	736
		$	16,059	1,806	11,392	20,502
	Totals, Fish, Dried, Salted, Smoked or Pickled[1]	$	24,538	31,449	77,317	27,677
	Totals, Fishery Products, n.o.p.[1]	$	5,577,378	5,418,787	3,719,872	4,107,761

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
31,883	32,135	49,151	41,736	32,140	32,366	49,950	41,919	1
465.619	429,749	614,174	570,535	469,219	424,303	622,636	572,896	
308,954	293,370	382,925	307,544	309,250	293,767	383,377	309,912	2
618,883	745,215	571,599	448,624	620,838	747,872	574,807	455,587	
49,530	43,370	54,407	81,207	49,532	43,370	54,407	81,210	3
1,396,660	1,347,865	1,612,966	2,318,109	1,396,700	1,347,865	1,612,966	2,318,133	
38,998	46,171	47,637	45,644	38,998	46,171	47,637	45,644	4
440,888	511,247	564,149	524,606	440,888	511,247	564,149	524,606	
24,175	14,257	25,249	16,001	24,175	14,257	25,249	16,001	5
151,206	127,319	180,069	106,619	151,206	127,319	180,069	106,619	
56,302	82,458	62,437	45,868	75,800	78,105	84,714	76,783	6
640,416	654,733	660,064	635,323	1,053,739	974,850	1,051,199	1,225,013	
82,338	72,104	73,355	53,040	82,343	72,124	73,372	53,055	7
1,115,709	1,029,199	1,091,751	803,260	1,115,778	1,029,501	1,091,993	803,548	
76,963	92,427	96.960	74,167	76,963	92,679	96,960	74,167	8
459,245	528,874	718,681	620,428	459,245	531,394	718,681	620,428	
124,480	112,097	116,840	113,407	124,480	112,097	116,840	113,407	9
1,406,006	1,387,607	1,516,094	1,500.814	1,406,006	1,386,607	1,516,094	1,500,814	
10,119,428	10,161,789	10,793,156	10,825,680	10,611,783	10,524,343	11,257,772	11,484,241	
8,714	10,711	11,721	13,979	8,742	10,767	11,749	14.029	10
149,500	144,910	171,104	215,501	149,819	145,675	171,524	216,214	
19,004	18,073	27,504	28,168	19,124	18,397	27,581	28,313	11
189,662	182,386	288,369	279,619	190,911	185,665	289,281	281,159	
16,464	14,882	14,626	13,698	53,047	47,687	47,085	54,883	12
1,081,104	963,098	915,360	856,514	3,668,954	3,319,623	3,014,735	3,456,379	
21,669	3,112	793	144	601,539	574,496	651,100	547,769	13
311,443	51,333	8,539	1,753	9,717,353	9,151,062	9,108,342	8,302,468	
–	262	2	1	–	59,219	47,538	62,185	14
–	2,499	68	32	–	548,495	469,841	623,824	
1,752,630	1,374,048	1,407,221	1,358,382	14,270,227	13,528,872	13,272,129	13,067,116	
140,706	122,712	120,293	103,738	638,266	625,983	541,725	531,398	15
1,043,147	899,061	1,068,944	965,804	4,769,436	4,555,545	4,784,829	4,828,643	
66,930	55,810	80,784	72,827	67,095	55,872	80,903	83,242	16
299,288	241,848	374,545	349,726	300,263	242,172	375,073	388,207	
22,981	21,830	18,120	12,755	23.078	21,947	18,339	12,894	17
281,737	255,213	223,512	172,044	282,611	256,753	227,179	173,705	
29,695	20,514	23,442	20,873	58,158	38,757	42,505	40,608	18
240,086	148,661	189,068	188,997	414,057	261,389	321,596	331,221	
10,284	64	10	25	803,849	1,080,491	1,157,139	1,082,985	19
26,460	194	33	136	1,524,410	2,019,466	1,998,482	1,983,073	
20,423	24,103	17,341	20,298	57,798	62,554	55.186	48.613	20
78,173	80,752	76,300	84,506	199.016	184,457	172,943	184,819	
35,214	37,961	35,997	26,262	90,418	85.779	76,760	73,653	21
141,466	144,125	162,823	117,039	303,358	296,733	310,781	297,645	
5,485	9,804	12,082	11,488	50,315	50,796	63.281	79,128	22
49,581	85,254	101,741	86,422	367,246	327,184	397,015	483,436	
6,330	3,704	9,626	7,482	53,445	40,635	53,235	58,278	23
28,984	18,650	53,898	42,402	300,871	229,347	320,597	372,478	
2	20	25	3,010	149,718	97,649	211,600	107.015	24
47	95	100	3,398	552,896	363,608	775,295	330,357	
13,821	12,856	8,022	8,163	19,551	25,428	24.210	22,785	25
293,720	302,291	173,833	189,180	407,772	560,799	540,313	545,530	
2,554,310	2,237,538	2,551,374	2,324,676	9,569,462	9,417,469	10,399.712	10,152,994	
14,612,369	13.973,579	15,513,738	14,928,048	35,253,420	34,546,646	36,156,069	35,697,027	

12.—Principal Exports of Canadian Produce from Canada to United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	II. Animals and Animal Products—continued.					
	Furs, Hides and Leather—					
	Furs—					
	Undressed—					
1	Beaver	No.	52,252	56,076	36,510	37,022
		$	1,191,242	1,557,031	952,143	1,074,736
2	Fox, black and silver	No.	9,805	12,469	19,765	28,871
		$	783,629	1,191,672	1,915,774	2,039,252
3	Fox, other	No.	74,526	53,755	32,028	30,359
		$	1,764,940	1,772,275	1,331,563	1,517,531
4	Marten	No.	40,595	30,092	25,595	22,353
		$	801,290	725,677	748,940	723,603
5	Mink	No.	53,978	56,077	36,315	51,467
		$	751,660	962,794	614,357	971,480
6	Muskrat	No.	446,009	515,325	1,337,590	1,436,962
		$	631,102	954,903	2,052,505	1,847,337
7	Other	$	1,308,874	1,984,850	2,422,568	2,140,254
8	Dressed	$	27,937	10,385	3,728	3,395
9	Manufactures	$	14,997	25,613	20,451	18,314
	Totals, Furs	$	7,275,671	9,185,200	10,062,029	10,335,902
10	Hair	$	17,674	106,620	123,929	85,662
	Hides and Skins, Raw—					
11	Calf	cwt.	317	–	19	–
		$	4,365	–	370	–
12	Cattle	cwt.	2,173	–	643	–
		$	29,845	–	8,059	–
13	Horse	cwt.	–	–	–	–
		$	–	–	–	–
14	Sheep	cwt.	9	–	48	–
		$	180	–	2,627	–
	Totals, Hides and Skins[1]	$	34,806	–	11,866	8,334
	Leather Unmanufactured—					
15	Harness	$	361	–	–	–
16	Sole	lb.	1,130,076	1,103,505	1,703,244	819,195
		$	395,196	492,773	645,434	287,384
17	Upper	$	1,032,584	1,950,591	1,357,797	902,989
	Totals, Leather, Unmanufactured[1]	$	1,430,108	2,452,900	2,011,513	1,201,162
	Leather, Manufactured—					
18	Boots and shoes	$	43,686	29,475	26,764	12,556
	Totals, Leather and Manufactures of[1]	$	1,481,983	2,495,792	2,064,514	1,276,017
	Meats—					
	Fresh—					
19	Beef	cwt.	23,737	1,065	66	–
		$	209,893	8,575	2,452	–
20	Mutton	cwt.	–	97	–	–
		$	–	1,915	–	–
21	Pork	cwt.	19,951	11,416	4,707	36
		$	418,253	212,739	91,930	637
22	Poultry	$	93,449	16,687	62,157	46,852
	Cured, Canned or Prepared—					
23	Bacon and hams	cwt.	755,621	517,300	329,754	241,324
		$	18,057,904	10,241,395	6,636,497	5,555,743
24	Beef, pickled	cwt.	–	–	–	–
		$	–	–	–	–
25	Canned meats	lb.	225,928	224,508	183,610	45,349
		$	85,838	95,843	76,822	10,984
26	Pork, dry-salted	cwt.	57,156	36,745	9,324	46,274
		$	1,189,424	687,541	176,112	921,379
27	Pork, pickled	cwt.	448	118	141	18
		$	11,296	2,857	2,001	283
28	Soups, all kinds	$	216,347	247,038	343,656	559,582
	Totals, Meats[1]	$	20,626,205	11,741,991	7,519,384	7,169,425

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
109,721	86,466	79,445	44,890	162,148	143,969	118,145	84,296	1
2,609,967	2,460,946	2,152,918	1,299,410	3,804,836	4,043,084	3,156,712	2,426,613	
4,901	4,451	2,989	1,348	17,236	21,338	30,290	35,618	2
371,687	418,292	331,246	113,394	1,368,272	2,090,131	3,037,367	2,575,905	
69,434	71,577	47,357	31,024	145,456	126,029	79,898	63,841	3
1,431,155	2,369,848	1,802,086	1,007,979	3,228,348	4,165,419	3,156,205	2,577,010	
20,926	25,609	21,939	9,511	61,650	56,033	48,192	32,409	4
406,927	687,746	691,272	278,936	1,212,340	1,420,809	1,458,195	1,019,317	
103,789	70,205	77,309	43,615	158,332	128,287	115,194	97,019	5
1,576,610	1,192,249	1,712,220	806,990	2,339,887	2,180,472	2,345,194	1,825,222	
1,152,161	944,001	709,849	574,724	1,600,151	1,479,353	2,137,349	2,091,507	6
1,036,977	1,980,626	1,056,417	821,759	2,570,852	2,972,477	3,252,169	2,782,262	
4,417,380	5,058,637	5,347,223	3,274,814	5,760,470	7,150,841	7,844,330	5,499,982	7
124,713	98,884	91,711	57,282	209,423	179,174	176,944	104,180	8
67,594	68,523	95,843	89,643	114,259	112,837	137,838	135,609	9
12,943,010	14,335,751	13,280,936	7,750,207	20,608,687	24,315,244	24,564,954	18,946,100	
431,333	387,056	273,012	286,417	460,830	598,426	471,359	465,874	10
91,085	102,494	85,611	65,881	91,402	102,984	86,697	66,709	11
1,589,242	2,255,497	2,220,995	1,295,396	1,593,607	2,266,606	2,250,727	1,314,781	
407,256	469,839	359,093	441,830	428,228	484,625	370,620	450,081	12
4,570,412	8,317,880	6,269,932	5,711,296	4,836,380	8,601,855	6,472,291	5,842,008	
16,458	17,059	20,101	32,691	16,458	17,059	20,101	32,691	13
118,663	189,708	219,476	243,389	118,663	189,708	219,476	243,389	
26,932	30,139	20,487	14,175	26,955	30,176	20,535	14,176	14
452,983	577,399	453,666	248,276	453,785	579,899	456,293	248,296	
6,787,040	11,416,611	9,244,131	7,572,463	7,058,766	11,714,357	9,479,691	7,730,914	
244,225	532,118	1,004,098	685,157	250,133	540,609	1,011,957	691,426	15
6,696,974	7,569,827	5,466,055	3,955,491	8,433,389	9,112,079	7,647,822	5,352,068	16
2,098,178	2,965,413	2,470,561	1,458,481	2,751,380	3,658,820	3,343,558	1,967,055	
4,189,865	4,713,807	3,547,801	2,619,897	5,316,936	6,961,829	5,157,194	3,777,127	17
6,571,424	8,239,781	7,091,188	4,812,320	8,364,632	11,203,404	9,591,900	6,496,951	
159,958	206,585	287,441	284,844	322,439	281,014	383,186	373,726	18
7,109,132	8,850,754	8,005,875	5,509,521	9,090,787	11,923,780	10,656,167	7,383,375	
147,647	495,063	411,532	258,285	235,555	532,758	432,856	284,113	19
1,836,353	6,566,780	6,604,512	4,115,626	2,638,227	7,021,119	6,990,868	4,592,786	
10,474	15,622	8,781	3,064	12,866	18,433	11,644	5,337	20
246,557	323,383	200,856	72,404	292,240	381,282	260,849	121,104	
131,540	83,053	72,137	30,938	153,906	97,282	79,464	33,808	21
2,885,301	1,629,428	1,460,009	621,682	3,350,832	1,886,823	1,595,246	677,094	
325,962	64,865	50,671	44,781	492,444	158,506	169,384	164,597	22
24,722	42,866	29,784	20,046	787,447	568,447	366,582	267,026	23
855,648	1,481,300	1,054,895	859,715	19,117,097	11,940,909	7,874,026	6,579,726	
34,084	45,246	7,195	9,010	36,180	47,405	7,775	9,078	24
336,150	403,582	106,212	135,066	360,757	427,267	113,855	136,083	
164	48	495	16,417	288,913	307,968	250,831	138,923	25
79	10	149	3,213	101,726	117,287	93,759	31,999	
190	33	–	6	60,244	39,047	13,002	50,808	26
2,920	437	–	235	1,242,488	732,253	250,485	1,005,186	
10,379	10,069	903	1,089	27,235	27,152	10,061	22,169	27
255,227	195,765	18,887	21,984	477,020	401,338	123,917	234,581	
6	297	20	143	217,768	248,493	353,730	573,925	28
7,243,564	11,288,594	10,382,736	6,446,315	29,408,705	24,472,478	19,184,930	15,030,671	

12.—Principal Exports of Canadian Produce from Canada to United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	II. Animals and Animal Products—concluded.					
	Milk and Its Products—					
1	Cream, fresh	gal.	120	324	714	–
		$	210	926	1,583	–
2	Milk, fresh	gal.	–	–	–	–
		$	–	–	–	–
3	Butter	cwt.	68,554	470	19	8
		$	2,206,026	15,450	841	338
4	Cheese	cwt.	1,190,000	892,188	1,025,387	831,562
		$	21,668,564	17,827,648	22,639,647	16,224,694
5	Milk powder	cwt.	26,640	28,152	36,631	41,295
		$	233,972	246,659	290,599	349,230
6	Milk, condensed	cwt.	23,053	19,660	16,295	13,076
		$	224,775	195,520	158,864	128,181
7	Milk, evaporated	cwt.	84,396	84,897	49,738	17,832
		$	764,025	695,767	445,993	157,499
	Totals, Milk and Its Products[1]	$	25,097,806	18,981,970	23,537,527	16,859,942
	Oils, Fats, Greases and Wax—					
8	Animal oils	gal.	30	757	–	–
		$	124	700	–	–
9	Fish, whale, etc., oils	gal.	40,701	–	2,149	48,951
		$	14,511	–	927	13,405
10	Grease and scraps	cwt.	–	–	–	–
		$	–	–	–	–
11	Lard	cwt.	30,927	13,457	291	11,633
		$	487,206	176,250	4,330	138,708
12	Lard compound	cwt.	–	–	20	49
		$	–	–	300	573
13	Tallow	cwt.	103	22	–	86
		$	823	175	–	558
	Totals, Oils, Fats, Greases and Wax[1]	$	502,664	177,125	6,652	154,418
14	Eggs	doz.	1,470,610	336,562	782,910	909,550
		$	564,012	121,269	264,880	337,812
15	Honey	lb.	408,441	582,137	346,271	1,218,044
		$	48,090	65,740	33,382	134,254
16	Sausage casings	$	161,051	192,007	121,991	83,628
17	Tankage	cwt.	–	–	–	–
		$	–	–	–	–
	Totals, Animals and Animal Products[1]	$	**67,819,473**	**48,683,290**	**47,644,803**	**40,673,780**
	III. Fibres and Textiles.					
	Cotton—					
18	Duck	yd.	25,140	53,473	69,137	71,464
		$	48,781	34,308	36,021	38,526
19	Underwear	$	68,614	31,244	19,768	32,050
	Totals, Cotton[1]	$	143,362	423,532	127,232	218,175
20	Flax, hemp and jute	$	2,132	663	4,766	2,441
21	Silk	$	4,259	856	1,980	999
	Wool—					
22	Raw	lb.	383,689	2,611,304	646,917	1,044,193
		$	100,722	719,521	210,570	222,029
	Totals, Wool[1]	$	109,982	733,298	222,550	234,517
23	Artificial silk	$	726	327,296	5,944	777
24	Rags	cwt.	13,571	23,827	23,267	25,980
		$	160,243	237,356	246,587	286,013
25	Binder twine	cwt.	8,253	1,120	–	2,737
		$	90,836	11,983	–	32,258
26	Bags, textile	$	16,983	49,789	64,531	40,762
27	Felt, mfrs.	$	84,237	73,707	84,936	112,931
28	Corsets and brassieres	No.	144,246	7,374	8,962	6,018
		$	213,149	12,915	18,145	12,901
29	Gloves, etc., textile	$	1,127	–	2,675	7,119
30	Socks and stockings	$	10,754	3,554	4,373	1,500
	Totals, Fibres and Textiles	$	**860,030**	**1,896,794**	**810,836**	**976,568**

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
4,495,917	4,016,961	2,833,640	2,293,270	4,496,528	4,017,796	2,834,354	2,293,330	1
7,749,341	7,118,254	5,225,429	4,679,804	7,750,233	7,119,925	5,227,012	4,679,984	
4,886,445	3,624,794	3,753,871	3,099,754	4,886,445	3,624,794	3,753,871	3,099,754	2
990,746	721,557	833,678	699,190	990,746	721,557	833,678	699,190	
3,486	2,661	2,314	207	98,784	26,433	18,892	13,094	3
106,718	101,252	71,032	8,763	3,351,589	1,053,553	764,836	543,851	
140,620	125,335	74,119	67,867	1,366,654	1,052,126	1,126,092	922,937	4
2,413,584	2,444,452	1,869,525	1,498,833	24,956,179	21,100,625	25,181,853	18,278,004	
46,090	36,315	10,471	6,416	74,406	67,255	50,147	50,145	5
611,195	348,969	247,479	181,127	869,412	629,057	608,466	579,102	
29,803	8,916	19,392	10,117	231,017	209,750	207,869	154,795	6
275,041	80,069	180,182	98,426	2,695,945	2,456,337	2,364,967	1,731,849	
16,173	10,504	1,240	2,103	109,038	108,632	78,548	84,985	7
132,959	91,589	10,687	18,306	972,012	904,186	747,312	951,150	
12,304,425	10,934,600	8,473,375	7,205,673	41,616,017	34,025,435	35,763,487	27,484,354	
4,019	93,390	11,554	3,048	79,716	233,028	124,721	56,425	8
4,723	114,243	11,631	2,935	93,574	275,192	131,292	52,258	
1,997,730	2,329,274	3,345,625	3,309,291	2,381,902	2,342,847	4,098,518	3,545,725	9
901,894	985,628	1,428,764	1,290,373	1,058,126	993,225	1,742,272	1,380,589	
16,129	15,593	15,330	15,486	29,387	30,099	24,621	19,739	10
44,432	52,971	51,010	25,000	174,024	178,434	134,644	59,290	
280	550	1	3	58,021	36,379	6,930	13,957	11
3,674	7,329	22	31	904,787	508,523	102,020	172,856	
19	8	25	663	13,820	13,925	2,983	2,682	12
289	95	320	6,408	179,700	168,862	39,681	33,457	
16,964	30,262	30,619	7,057	20,704	30,453	32,179	9,513	13
131,635	236,383	255,487	51,092	164,748	238,453	270,228	69,347	
1,001,467	1,399,002	1,747,436	1,380,262	2,579,832	2,365,144	2,421,434	1,776,910	
47,827	18,786	5,043	61,051	1,730,849	517,991	919,767	1,158,835	14
20,457	6,749	1,892	20,187	669,609	194,121	319,169	429,280	
65,812	41,706	29,251	55,573	1,568,712	2,097,023	1,168,599	1,710,055	15
9,118	5,572	3,328	6,278	147,555	187,237	96,643	175,807	
678,215	706,012	881,320	504,131	1,180,791	1,251,890	1,405,745	955,933	16
306,305	304,539	260,973	267,322	306,305	304,539	260,973	267,343	17
596,704	698,948	599,370	581,025	596,704	698,948	599,370	581,090	
75,320,135	**92,244,088**	**84,993,501**	**66,894,165**	**167,291,589**	**165,845,096**	**158,757,272**	**133,009,145**	
-	648	783	198	408,418	502,808	488,800	545,986	18
-	288	1,151	980	247,221	267,584	238,437	272,117	
5,956	3,219	126	633	167,830	148,013	163,764	184,584	19
59,824	65,750	35,538	19,917	631,341	1,009,560	701,806	842,588	
99,752	51,703	34,999	20,706	108,124	81,804	49,583	31,072	20
6,512	6,823	7,463	14,487	81,166	137,358	124,610	153,280	21
4,790,683	8,254,566	7,039,910	5,088,598	5,233,981	11,140,101	7,840,927	6,272,016	22
1,415,784	2,351,662	2,530,420	1,317,004	1,538,660	3,149,967	2,796,987	1,576,342	
1,469,083	2,414,259	2,625,865	1,434,381	1,822,168	3,506,838	3,256,693	2,025,655	
367	4,892	49,839	4,166	34,777	551,918	245,231	228,809	23
237,904	268,636	250,529	224,613	257,016	311,128	286,639	264,771	24
1,230,888	1,376,004	1,401,590	1,216,533	1,467,728	1,766,465	1,800,885	1,632,278	
32,023	69,296	53,904	84,634	136,033	187,498	128,834	136,178	25
430,631	823,158	573,152	965,295	1,626,399	2,053,015	1,317,290	1,502,421	
4,240	19,116	1,662	4,438	58,842	132,654	132,364	101,894	26
47,566	23,537	10,755	12,568	425,288	486,898	561,327	653,514	27
5	10	462	99	282,063	143,700	124,457	119,234	28
29	8	367	186	425,098	161,516	149,513	126,903	
245	446	604	593	233,461	194,707	206,091	216,376	29
312	950	765	651	173,726	267,012	464,794	826,425	30
3,451,081	**4,922,004**	**4,930,498**	**3,961,130**	**7,665,563**	**10,904,073**	**9,678,019**	**9,066,226**	

12.—Principal Exports of Canadian Produce from Canada to United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	IV. Wood, Wood Products and Paper.					
	Wood, Unmanufactured—					
	Logs and Round Timber—					
1	Logs, cedar	M ft.	-	100	-	-
		$	-	725	-	-
2	Logs, other	M ft.	3,045	2,377	2,688	1,878
		$	113,980	97,255	110,102	84,994
3	Poles, telegraph	No.	-	-	-	-
		$	-	-	-	-
4	Railway ties	No.	240,610	57,481	405,591	460,273
		$	174,560	39,412	282,015	340,127
	Totals, Logs and Round Timber[1]	$	288,761	141,030	392,317	425,328
	Sawmill and Planing-mill Products—					
	Planks and Boards—					
5	Cedar	M ft.	63	11	98	252
		$	4,450	597	4,691	19,714
6	Fir	M ft.	21,791	25,289	28,371	36,387
		$	592,883	698,146	678,140	862,303
7	Hemlock	M ft.	145	245	710	3,002
		$	3,662	7,166	18,147	59,190
8	Pine	M ft.	36,575	30,843	29,906	25,890
		$	2,654,903	2,047,203	1,989,823	1,568,965
9	Spruce	M ft.	77,557	124,465	86,702	80,115
		$	2,159,218	3,296,136	2,247,799	2,117,119
	Totals, Planks and Boards[1]	M ft.	164,745	217,737	190,862	187,771
		$	6,573,422	7,460,920	6,676,663	6,179,125
	Timber, Square—					
10	Douglas fir	M ft.	5,472	5,333	15,086	12,474
		$	135,840	132,966	307,971	284,304
11	Other	M ft.	2,952	3,406	2,808	3,293
		$	263,954	291,274	262,707	302,701
12	Laths	M	36	37	-	113
		$	96	135	-	452
13	Pickets	M	10	-	-	-
		$	400	-	-	-
14	Shingles	M	293	420	1,928	273
		$	1,120	1,692	6,081	1,159
15	Shooks	$	58,853	53,563	41,570	89,177
	Totals, Sawmill and Planing-mill Products[1]	$	7,196,880	8,157,369	7,469,988	7,177,903
16	Pulpwood	cord	-	-	-	-
		$	-	-	-	-
17	Spoolwood	$	580,118	328,617	640,573	688,359
	Totals, Wood, Unmanufactured[1]	$	8,065,759	8,627,016	8,501,878	8,292,480
	Wood, Manufactured—					
18	Cooperage	$	8,536	600	-	67
	Wood-pulp—					
19	Sulphate (kraft)	cwt.	-	-	-	-
		$	-	-	-	-
20	Sulphite, bleached	cwt.	34,074	74,449	138,932	160,064
		$	160,860	343,271	609,899	688,004
21	Sulphite, unbleached	cwt.	16,828	-	53,095	36,917
		$	43,331	-	126,458	81,227
22	Mechanical	cwt.	1,918,266	1,633,806	728,304	424,873
		$	3,222,346	2,749,552	1,048,696	638,639
23	Screenings	cwt.	-	-	-	-
		$	-	-	-	-
	Totals, Wood-pulp	cwt.	1,999,168	1,708,255	920,331	621,854
		$	3,426,537	3,092,823	1,785,053	1,407,870
24	Doors, sashes, blinds	$	19,859	12,299	11,943	6,242
25	Furniture	$	88,617	33,135	61,440	59,447
26	Match splints	$	372,360	295,360	328,289	429,540
	Totals, Wood, Manufactured[1]	$	4,487,821	3,916,156	2,695,827	2,427,450
	Totals, Wood and Wood Products[1]	$	12,553,580	12,543,172	11,197,705	10,719,930

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
33,136	37,285	30,908	35,544	166,831	162,442	156,211	81,747	1
578,946	563,759	482,954	524,081	2,290,154	1,997,638	2,030,869	1,127,783	
133,161	172,950	119,288	135,795	159,023	203,867	172,335	182,876	2
2,061,875	2,532,358	1,871,128	1,955,029	2,457,277	2,986,858	2,617,938	2,550,134	
764,262	770,227	855,221	942,008	771,123	770,668	855,372	944,606	3
3,293,128	3,324,007	3,443,283	3,907,649	3,318,575	3,327,773	3,444,631	3,917,536	
1,029,219	726,961	663,294	782,764	1,333,926	1,030,089	1,110,557	1,447,754	4
896,763	684,297	586,590	664,360	1,125,642	851,598	909,159	1,104,835	
7,127,084	7,320,347	6,557,048	7,337,085	9,581,355	9,506,796	9,344,088	9,115,082	
56,020	52,191	43,460	45,915	60,598	53,213	44,760	46,974	5
2,451,401	2,124,807	1,840,857	1,847,315	2,639,997	2,169,740	1,893,753	1,904,873	
373,924	366,134	317,664	402,912	532,913	559,571	477,047	594,463	6
7,127,338	6,813,460	5,906,455	7,686,430	10,731,770	11,168,450	9,517,201	12,051,549	
80,171	81,886	102,441	129,998	98,242	108,532	132,975	148,868	7
1,503,876	1,454,374	1,764,935	2,100,116	1,891,820	2,042,315	2,440,246	2,447,164	
394,423	332,929	259,029	267,846	442,348	376,672	303,887	305,558	8
12,723,862	10,598,565	8,659,259	9,046,621	15,857,685	13,164,201	11,200,589	11,089,220	
737,791	659,207	526,455	497,717	843,408	801,640	623,087	592,740	9
19,976,413	17,691,496	14,617,055	13,827,106	22,953,865	21,547,519	17,201,126	16,411,999	
1,725,628	1,565,653	1,317,167	1,419,337	2,090,429	2,010,623	1,696,110	1,807,138	
48,252,034	42,519,884	36,378,168	38,399,785	59,795,171	55,397,621	47,663,849	49,446,887	
13,001	9,118	8,659	15,498	113,600	134,607	177,365	196,036	10
246,181	180,360	172,125	300,419	2,335,683	2,779,549	3,500,489	3,859,334	
1,295	1,435	1,184	2,311	5,002	8,932	6,008	5,889	11
42,308	39,460	38,706	64,489	324,590	427,286	353,426	375,975	
1,722,729	1,353,891	1,219,996	699,021	1,738,263	1,362,339	1,224,876	707,855	12
8,919,746	6,469,913	5,999,341	3,059,056	8,997,095	6,499,328	6,024,035	3,095,417	
51,402	53,134	41,001	45,166	51,797	53,597	41,213	45,411	13
502,054	485,431	385,070	399,913	510,919	495,391	389,598	404,862	
2,434,242	2,035,510	2,005,589	1,668,858	2,470,453	2,071,295	2,043,137	1,696,433	14
8,324,387	6,712,637	7,663,419	6,599,361	8,415,970	6,820,246	7,793,271	6,704,494	
41,174	20,813	14,508	13,729	729,413	671,069	610,580	856,986	15
66,561,127	56,661,352	50,778,922	48,983,499	81,629,201	73,628,619	66,712,335	65,283,253	
1,536,485	1,501,612	1,406,583	1,345,692	1,536,485	1,501,612	1,406,583	1,345,692	16
15,400,343	15,182,842	14,187,100	13,860,209	15,400,343	15,182,842	14,187,100	13,860,209	
13,990	2,726	2,390	9,628	594,108	331,343	642,963	697,987	17
89,749,769	79,883,562	72,312,271	70,947,960	107,855,430	99,370,516	91,675,675	89,717,326	
51,947	76,443	58,422	14,318	153,418	206,889	282,171	167,015	18
3,311,473	3,440,720	3,056,989	2,506,849	3,311,473	3,442,484	3,103,669	2,582,898	19
10,249,691	10,248,339	9,054,489	7,233,335	10,249,691	10,253,803	9,181,924	7,442,299	
3,319,315	3,594,330	3,764,479	4,064.853	4,218,175	4,858,139	5,064,582	5,270,202	20
12,777,333	13,582,187	14,263,297	14,968,712	16,474,469	18,608,237	19,334,364	19,871,813	
4,100,046	3,345,966	3,389,739	3,491,476	4,566,432	3,973,236	4,097,438	4,150,839	21
11,453,526	8,716,771	8,525,946	8,731,699	12,826,530	10,381,466	10,223,379	10,242,265	
4,673,109	3,472,920	3,334,694	3,944,792	6,863,271	5,106,726	4,062,998	4,495,687	22
6,660,371	4,780,423	4,492,547	5,665,837	10,337,049	7,529,975	5,541,243	6,482,354	
–	505,820	615,875	761,513	–	505,820	621,478	762,328	23
–	487,754	605,316	665,412	–	487,754	614,807	666,227	
15,403,943	14,359,756	14,161,776	14,769,483	18,959,351	17,886,405	16,950,165	17,261,954	
41,140,921	37,815,474	36,941,595	37,264,995	49,887,739	47,261,235	44,895,717	44,704,958	
4,508	1,509	1,308	2,540	147,936	75,848	67,869	37,098	24
40,939	28,822	52,444	40,095	405,361	296,778	381,734	342,428	25
180	170	43	–	466,248	385,685	392,632	500,240	26
41,415,162	38,088,347	37,487,667	37,684,939	52,014,768	49,048,356	47,166,122	46,874,140	
131,164,931	117,971,909	109,799 938	108,632,899	159,870,198	148,418,872	138,841,797	136,591,466	

12.—Principal Exports of Canadian Produce from Canada to United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	IV. Wood, Wood Products and Paper—con.					
	Paper, n.o.p.—					
1	Paper board	$	920,768	839,509	696,962	803,377
2	Book paper	cwt.	6,662	2,702	3,922	3,626
		$	49,152	28,316	44,740	45,287
3	Newsprint	cwt.	405,697	898,103	3,136,427	3,370,066
		$	1,314,642	2,889,786	9,711,867	9,265,221
4	Wrapping paper	cwt.	79,472	54,114	61,476	57,129
		$	462,071	272,864	310,446	291,741
5	Bond and writing paper	cwt.	23	177	9	20
		$	557	1,351	225	495
6	Wall paper	roll	1,539,785	1,365,206	642,713	391,090
		$	236,569	232,596	108,090	69,241
7	Roofing paper	$	79,151	119,071	8,874	–
8	Waste paper	cwt.	–	–	–	–
		$	–	–	–	–
	Totals, Paper, n.o.p.[1]	$	3,162,543	4,486,042	10,964,961	10,544,613
	Books and Printed Matter—					
9	Books	$	22,117	24,326	29,788	20,497
10	Newspapers, etc	$	93,932	116,219	156,550	163,635
	Totals, Wood, Wood Products and Paper[1]	$	**15,835,904**	**17,171,311**	**22,359,947**	**21,459,183**
	V. Iron and Its Products.					
	Pigs, ingots, blooms and billets—					
11	Ferro-manganese and ferro-silicon	ton	–	–	–	–
		$	–	–	–	–
	Totals, Pigs, Ingots, Blooms and Billets.[1]	ton	–	–	–	–
		$	–	–	–	–
12	Scrap iron	ton	760	578	335	1,213
		$	16,475	10,605	7,994	16,001
13	Castings	$	2,815	23,828	25,185	20,825
14	Forgings	$	45,103	2,004	2,099	1,346
	Rolling-mill Products—					
15	Bars and rods	ton	5,657	1,525	116	56
		$	207,262	61,240	11,889	6,785
16	Rails	ton	–	1	–	–
		$	–	62	–	–
17	Structural steel	ton	–	–	–	–
		$	–	–	–	–
	Totals, Rolling-mill Products[1]	$	207,262	61,302	11,889	6,785
18	Pipe and tubing	$	315,173	119,603	79,610	171,306
19	Wire	$	225,373	215,084	160,814	181,136
20	Engines and boilers	$	7,127	8,157	5,871	2,483
	Farm Implements and Machinery—					
21	Cream separators	$	5,591	11,701	4,015	–
22	Harvesters	No.	1,580	758	189	396
		$	259,619	128,148	31,489	65,306
23	Hay rakes	No.	72	365	–	60
		$	2,486	11,507	–	2,192
24	Mowers	No.	1,319	1,831	925	1,056
		$	83,178	111,645	60,268	66,158
25	Reapers	No.	10	10	–	–
		$	973	973	–	–
26	Reaper-threshers	No.	–	–	1	1
		$	–	–	1,094	1,283
27	Cultivators	No.	145	351	65	12
		$	6,968	9,521	3,901	1,157
28	Drills	No.	268	239	109	266
		$	27,903	21,839	10,733	26,336
29	Harrows	$	24,463	10,412	23,525	21,648
30	Ploughs	$	47,207	39,685	33,754	22,412
31	Threshing machines	$	–	2,538	1,460	1,516
32	Spades and shovels	$	140	–	3	14
33	Parts	$	130,930	197,468	199,009	185,641
	Totals, Farm Implements and Machinery[1]	$	673,945	638,584	448,376	459,143

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
1,453,362	1,427,607	1,247,759	1,335,391	2,733,747	2,657,186	2,311,423	2,506,496	1
61	45	57	2	63,465	104,481	80,384	62,028	2
451	1,215	1,370	20	541,098	718,723	659,316	547,040	
33,115,742	36,411,593	39,202,329	43,053,808	35,437,629	39,417,522	45,264,586	49,800,821	3
108,364,290	118,404,904	123,097,724	126,288,591	116,452,158	128,507,101	142,343,064	145,610,519	
2,676	128	8,485	9,220	351,472	294,699	331,518	302,384	4
13,471	966	16,220	18,198	2,051,390	1,642,972	1,814,166	1,655,568	
–	19	83	272	18,850	13,036	4,419	3,403	5
–	707	3,300	6,673	142,553	107,918	41,226	33,255	
116,949	126,528	172,204	137,195	3,460,771	3,551,385	2,706,413	2,716,519	6
29,852	25,877	35,994	31,469	509,335	511,748	365,696	399,516	
2,724	1,216	434	2,498	198,219	227,536	99,390	92,638	7
314,257	357,424	380,494	383,631	314,804	357,815	380,977	384,446	8
289,738	327,342	345,003	292,261	290,267	327,698	345,646	292,996	
110,189,113	120,209,438	124,898,461	128,081,602	123,222,734	134,985,777	148,394,868	151,509,623	
132,273	114,871	114,732	131,107	199,481	167,195	174,141	188,052	9
527,069	686,035	848,538	819,289	817,632	964,768	1,200,694	1,264,276	10
242,019,601	**238,986,005**	**235,665,010**	**237,669,413**	**284,120,267**	**284,543,396**	**288,621,745**	**289,566,675**	
59,202	40,308	53,592	66,891	59,437	40,434	54,143	66,995	11
3,335,248	2,725,573	3,792,142	4,534,454	3,351,423	2,728,315	3,840,780	4,543,649	
61,363	40,789	54,602	75,183	62,888	42,370	56,311	76,531	
3,379,865	2,734,911	3,809,298	4,687,073	3,427,779	2,782,223	3,884,106	4,727,137	
63,538	56,241	85,068	86,326	68,395	76,147	101,942	122,832	12
607,335	547,342	911,465	948,756	667,583	783,403	1,120,029	1,424,071	
130,831	83,826	43,315	240,141	114,119	131,786	90,839	275,767	13
19,543	4,411	1,067	455	64,646	24,613	4,286	2,746	14
3,363	2,040	2,377	1,638	28,053	15,537	24,743	17,522	15
131,827	101,448	114,345	76,640	1,054,980	608,124	847,248	663,568	
2,472	1,762	3,822	2,447	13,712	30,985	3,879	19,620	16
53,688	49,103	135,561	63,489	513,434	1,047,744	137,653	658,724	
34	47	46	45	9,743	2,286	463	2,490	17
3,282	2,686	4,606	400	745,550	225,607	57,165	347,158	
192,049	158,653	257,913	143,902	2,331,169	1,893,707	1,057,119	1,681,814	
625,329	666,741	745,223	419,839	2,064,401	1,754,597	2,222,432	2,202,769	18
13,329	3,352	2,344	7,292	894,597	875,390	951,750	909,540	19
39,566	56,575	31,691	11,659	304,338	207,689	235,608	397,022	20
56,865	40,672	11,620	9,416	100,092	77,197	51,991	37,339	21
15	33	367	866	17,285	14,002	11,510	12,098	22
2,280	4,631	60,454	154,745	2,939,985	2,363,798	1,982,689	2,230,336	
222	266	668	616	1,803	2,142	3,460	3,976	23
6,504	8,074	19,740	18,475	60,307	79,533	128,854	139,369	
255	220	1,008	1,328	26,763	18,664	10,580	13,448	24
15,133	12,123	53,057	69,895	1,566,584	1,074,426	625,168	823,499	
–	–	1	1	1,488	1,462	818	213	25
–	–	90	145	143,705	13,312	75,412	16,259	
–	–	1,029	571	–	–	2,472	2,535	26
–	–	1,028,141	523,777	–	–	2,471,678	2,702,355	
4,627	6,839	5,540	1,004	13,963	14,232	14,335	17,144	27
429,265	610,630	475,418	63,483	823,732	901,147	799,887	600,819	
26	119	1,255	1,893	6,423	6,164	7,000	5,586	28
3,041	17,399	176,321	242,354	1,019,701	1,024,222	1,176,517	898,412	
84,111	171,969	298,505	212,014	313,283	355,150	522,497	476,584	29
188,236	227,402	503,057	888,546	2,226,255	2,151,278	3,272,043	4,798,183	30
2,120,270	1,082,659	126,884	316,440	4,283,799	3,549,380	326,114	577,953	31
416	5,207	2,177	900	232,591	308,025	295,128	194,949	32
1,269,327	1,265,929	1,143,349	828,877	2,988,927	3,051,059	3,064,433	3,117,364	33
4,204,581	3,522,603	4,367,408	4,118,842	17,412,947	15,643,381	15,870,918	18,396,688	

12.—Principal Exports of Canadian Produce from Canada to United

No.	Item.		United Kingdom. 1927.	1928.	1929.	1930.
	V. Iron and Its Products—concluded.					
	Hardware and Cutlery—					
1	Razors and razor blades	$	169,163	53,825	3,100	66,375
2	Nails, wire	cwt.	1,185	788	998	120
		$	4,305	2,916	3,398	325
3	Nails, other	cwt.	633	493	394	509
		$	7,613	5,386	4,446	6,667
4	Needles and pins	$	197,183	324,337	531,084	400,716
	Machinery—					
5	Electric vacuum cleaners	No.	20,700	25,253	26,653	34,091
		$	910,406	1,038,732	1,127,075	1,426,884
6	Sewing machines	$	2,127	400	85	135
7	Adding machines	No.	301	1,601	1,288	2,089
		$	21,850	123,399	102,909	174,602
8	Typewriters	No.	2	3	3	6
		$	75	500	265	325
9	Metal-working machines	$	3,766	4,535	3,464	16,944
	Totals, Machinery[1]	$	1,106,185	1,350,235	1,378,908	1,887,570
10	Tools, hand or machine	$	22,144	46,205	29,469	32,623
	Vehicles—					
	Automobiles, freight—					
11	One ton or less	No.	96	288	–	–
		$	27,120	72,875	–	–
12	Over one ton	No.	5	5	2	–
		$	8,894	5,700	2,280	–
	Automobiles, passenger—					
13	$500 or less	No.	1,298	1,162	2,485	2,412
		$	424,703	326,009	642,060	734,445
14	$500 to $1,000	No.	2,878	3,326	4,794	1,741
		$	2,123,054	2,418,514	3,317,145	1,220,686
15	Over $1,000	No.	1,073	1,501	1,278	840
		$	1,320,408	1,894,553	1,504,237	1,045,899
	Totals, Automobiles	No.	5,350	6,282	8,559	4,993
		$	3,904,179	4,717,651	5,465,722	3,001,030
16	Automobile parts	$	426,758	84,196	120,551	58,330
17	Railway cars and parts	$	–	500	–	365
18	Tractors and parts	$	–	–	–	–
	Totals, Vehicles[1]	$	4,332,934	4,803,739	5,587,624	3,061,383
19	Chains	$	57,988	27,297	40,096	27,657
20	Stoves	$	29,864	14,103	25,981	4,303
	Totals, Iron and Its Products	$	**8,129,365**	**8,195,972**	**8,721,020**	**6,848,000**
	VI. Non-Ferrous Metals.					
	Aluminium—					
21	Scrap	cwt.	–	311	460	3,465
		$	–	3,187	7,246	56,519
22	Bars, blocks, etc	cwt.	3,748	39,559	74,698	122,289
		$	91,692	845,510	1,420,944	2,340,294
23	Manufactures	$	80,361	37,568	47,275	180,196
	Brass—					
24	Old and scrap	cwt.	1,959	3,490	3,575	2,870
		$	21,686	33,250	38,531	30,105
25	Valves	$	110,303	132,863	165,673	185,106
	Copper—					
26	Fine, in ore, matte, regulus	cwt.	160,759	235,679	214,321	71,041
		$	1,207,227	1,770,865	1,603,291	667,973
27	Blister	cwt.	–	–	–	–
		$	–	–	–	–
28	Old and scrap	cwt.	234	768	1,716	348
		$	2,580	9,714	18,478	4,175
29	Wire, insulated	$	22,667	7,286	17	150
	Totals, Copper[1]	$	1,260,669	1,819,912	1,623,376	675,117

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
426	31	–	–	2,326,610	1,774,322	633,568	537,362	1
2,145	2,354	2,782	2,559	75,914	69,127	69,284	54,787	2
7,559	8,121	9,552	8,714	267,485	245,492	245,441	188,406	
31	2	92	433	24,723	17,639	18,243	27,738	3
341	14	588	4,673	156,400	135,025	124,672	162,629	
2,851	3,753	471	778	273,059	395,472	612,077	502,164	4
4	15	5	23	28,892	35,185	39,556	50,374	5
784	906	155	685	1,228,326	1,415,806	1,697,642	2,067,328	
13,233	4,431	4,144	3,587	1,997,011	3,464,098	4,333,533	3,211,969	6
3	18	8	134	1,981	2,307	4,056	4,003	7
255	925	3,217	13,990	280,960	236,323	408,289	402,179	
155	393	31	32	380	930	1,089	1,234	8
6,587	15,779	1,856	1,938	15,008	39,833	54,948	68,614	
16,499	6,385	10,877	14,843	235,513	262,538	90,924	47,566	9
456,322	304,731	272,304	377,729	4,755,925	6,166,574	7,337,075	7,154,706	
17,068	16,686	29,090	51,982	264,467	296,790	267,358	284,800	10
8	2	3	12	20,405	15,079	22,165	21,447	11
2,094	800	585	1,200	6,870,927	5,569,890	7,871,430	8,465,601	
1	2	4	7	6	12	9,293	8,235	12
5,892	5,457	5,682	5,429	14,786	22,068	3,923,304	3,611,278	
154	206	131	249	38,019	17,683	54,561	36,220	13
32,527	40,447	30,612	54,688	13,283,406	7,009,647	19,219,420	13,856,685	
13	34	34	39	9,963	9,566	15,723	13,023	14
9,609	25,482	25,072	27,121	7,475,481	6,849,243	9,894,681	8,201,565	
8	9	7	17	3,322	4,398	1,824	936	15
12,636	14,790	10,400	25,281	4,106,652	5,389,827	2,150,898	1,172,516	
184	253	179	324	71,715	46,738	103,566	79,861	
62,758	86,976	72,351	113,719	31,751,252	24,840,675	43,059,733	35,307,645	
293,741	69,095	143,620	66,399	4,665,369	2,566,960	2,383,193	2,298,742	16
38,371	7,980	3,205	8,975	82,333	269,444	208,480	31,897	17
122,418	136,633	9,433	14,154	122,678	141,059	20,361	17,595	18
524,017	313,594	230,881	208,557	36,816,445	27,919,341	45,773,770	37,755,351	
1,139	248	12,316	3,776	151,842	149,256	164,144	168,758	19
42,930	39,906	38,582	72,256	141,619	114,482	129,573	152,692	20
10,680,762	**8,831,287**	**11,157,421**	**11,635,491**	**74,284,824**	**62,753,934**	**82,256,717**	**78,589,580**	
6,082	3,674	11,936	5,260	6,082	4,950	25,173	32,521	21
85,225	44,216	97,677	52,417	85,225	60,791	316,372	486,790	
191,860	396,257	218,924	291,454	238,068	532,315	438,099	771,919	22
4,207,101	7,918,826	4,323,108	4,887,230	5,347,969	10,822,174	8,608,247	13,828,010	
564,418	21,742	3,982	17,459	1,150,025	612,836	719,575	2,107,390	23
43,714	56,057	118,008	108,516	61,436	73,862	131,866	112,397	24
351,978	428,435	1,072,671	1,040,551	540,505	595,464	1,200,737	1,082,938	
3,655	3,994	4,725	1,677	203,348	223,588	272,300	288,663	25
507,848	513,776	641,585	749,481	668,607	749,455	855,906	820,846	26
6,627,916	5,312,860	6,332,888	8,096,900	7,835,143	7,083,725	7,936,179	8 769,586	
468,606	574,448	1,087,012	1,430,995	468,606	577,790	1,218,517	1,575,438	27
6,018,914	7,377,863	16,754,159	25,988,654	6,018,914	7,427,986	18,968,309	28,965,827	
52,580	70,859	66,473	119,655	54,460	80,183	73,573	122,693	28
517,403	738,277	734,466	1,648,737	540,515	846,713	825,672	1,692,472	
1,954	3,085	565	1,461	387,573	139,475	253,163	136,709	29
13,168,010	13,433,073	23,829,452	35,739,195	14,917,456	15,592,682	28,046,684	39,628,652	

12.—Principal Exports of Canadian Produce from Canada to United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	VI. Non-Ferrous Metals—concluded.					
	Lead—					
1	In ore	cwt.	-	-	-	-
		$	-	-	-	-
2	Pig	cwt.	950,335	970,257	1,166,492	1,005,874
		$	5,391,431	4,255,915	4,746,588	4,341,596
	Nickel—					
3	In ore, etc	cwt.	223,982	316,078	273,254	128,493
		$	3,448,973	4,738,004	4,097,726	2,222,709
4	Nickel oxide	cwt.	-	2,566	2,066	2,445
		$	-	65,817	55,343	58,288
5	Fine	cwt.	19,323	27,995	28,318	7,346
		$	692,540	980,751	996,390	256,803
	Precious Metals—					
6	Gold-bearing quartz, dust, etc	$	17,981	1,104	21,631	-
7	Silver in ore, concentrates, etc	oz.	67,877	-	-	-
		$	33,941	-	-	-
8	Silver bullion	oz.	414,368	24,903	478,214	168,588
		$	264,287	14,194	272,583	92,000
	Totals, Precious Metals[1]	$	345,074	73,033	339,891	489,988
	Zinc—					
9	In ore, etc	cwt.	-	-	-	-
		$	-	-	-	-
10	Spelter	cwt.	326,051	214,422	271,432	591,667
		$	2,155,510	1,176,600	1,410,394	2,732,922
11	Scrap, dross and ashes	cwt.	7,579	12,285	3,304	5,128
		$	31,791	40,942	13,528	18,378
	Miscellaneous—					
12	Electric apparatus	$	126,194	292,402	298,649	274,496
13	Cobalt in ore	cwt.	-	-	634	580
		$	-	-	124,500	111,413
14	Cobalt, metallic	lb.	27,506	138,799	18,000	10,000
		$	65,263	300,412	41,000	25,000
	Totals, Non-Ferrous Metals[1]	$	**14,174,289**	**15,696,472**	**16,347,438**	**15,404,363**
	VII. Non-Metallic Minerals.					
15	Asbestos	ton	8,751	11,064	6,151	2,850
		$	650,069	767,465	504,555	323,417
16	Asbestos sand	ton	2,266	2,397	1,729	2,511
		$	52,093	55,407	34,904	60,225
17	Asbestos mfrs	$	7,038	5,204	10,233	82,882
18	Porcelain insulators	$	154	4,068	43,783	138,406
19	Other clay and products	$	2,411	1,904	223	1,182
20	Coal (incl. lignite)	ton	134,727	29,261	20,870	25,147
		$	917,678	216,345	148,338	187,912
	Coal Products—					
21	Coke	ton	-	-	-	-
		$	-	-	-	-
22	Tar	gal.	44,910	1,236,876	-	200
		$	6,205	128,667	-	144
23	Creosote oil	gal.	-	-	-	-
		$	-	-	-	-
24	Glass and glassware	$	53,563	33,316	96,702	47,996
25	Graphite	cwt.	9	213	146	128
		$	275	2,212	1,488	1,206
26	Mica splittings	cwt.	231	150	90	60
		$	14,830	11,025	3,005	3,510
27	Other mica	$	231	3,300	3,707	1,298
	Petroleum and Its Products—					
28	Petroleum, crude	gal.	7,472,715	5,056,011	7,242,258	8,526,834
		$	448,363	304,420	493,404	505,224
29	Kerosene, refined	gal.	-	-	-	-
		$	-	-	-	-
30	Gasolene and naphtha	gal.	-	-	-	1,292
		$	-	-	-	233

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
86,271	49,796	145,583	200,751	136,458	135,551	146,622	201,127	1
491,994	299,316	872,914	1,190,932	796,524	871,543	879,148	1,192,732	
4,120	8,722	81	7,795	2,115,627	2,416,093	2,533,822	2,178,016	2
25,578	47,412	296	39,619	12,667,959	11,009,119	10,251,187	9,445,155	
94,223	51,254	132,588	164,290	365,689	367,332	405,842	293,657	3
1,011,746	765,741	1,988,208	2,576,761	6,037,990	5,503,745	6,085,934	4,819,695	
-	11,605	16,537	16,211	-	79,371	95,829	99,452	4
-	251,202	318,782	311,408	-	2,472,589	2,919,043	3,035,249	
205,874	254,652	470,471	610,010	258,758	335,582	573,151	672,066	5
4,985,027	6,115,407	11,181,954	14,943,549	6,883,200	9,049,970	14,875,515	17,180,031	
6,836,361	8,990,186	12,371,060	34,375,003	6,854,342	9,035,734	12,396,444	34,375,003	6
5,923,677	5,366,070	6,378,786	7,244,184	6,034,514	5,463,309	6,517,822	7,390,017	7
3,469,224	2,851,367	3,596,903	3,805,786	3,528,065	2,905,130	3,671,422	3,878,703	
3,826,875	2,891,265	3,123,069	1,863,156	15,778,443	15,906,738	14,250,979	15,186,751	8
2,319,039	1,647,357	1,818,005	933,073	9,448,269	8,956,407	8,291,506	7,691,152	
12,976,253	13,912,332	18,234,110	39,513,803	20,211,170	21,378,805	24,853,191	46,746,390	
-	-	105	-	-	-	225,212	299,922	9
225,971	-	659	-	1,393,368	862,295	1,439,278	1,628,885	
-	80	-	-	984,827	1,237,522	1,275,076	1,355,517	10
-	760	-	-	6,896,054	7,085,422	6,652,637	6,488,679	
35,997	40,379	63,960	67,788	43,576	59,593	70,895	75,152	11
123,347	109,672	197,043	229,041	155,138	170,982	214,932	249,148	
107,975	98,342	94,816	107,229	1,698,411	1,848,968	2,400,838	2,521,045	12
-	-	1	255	-	-	4,364	3,601	13
9,713	-	103	18,449	261,699	305,226	541,023	450,114	
174,814	133,669	243,548	257,800	202,320	338,526	261,548	267,800	14
298,307	262,293	451,968	491,889	363,570	704,403	492,968	516,889	
39,007,020	**44,114,499**	**63,221,555**	**101,728,976**	**80,639,197**	**90,840,441**	**112,778,194**	**154,319,429**	
88,638	74,179	85,477	85,247	138,732	129,402	134,062	136,333	15
5,184,119	4,606,536	5,401,953	5,588,201	8,692,037	8,549,366	9,090,392	9,560,889	
121,232	125,600	126,196	141,733	127,214	134,725	134,807	150,164	16
1,794,343	1,928,149	1,977,836	2,309,631	1,922,657	2,127,805	2,176,796	2,513,176	
19,702	17,241	26,015	16,317	59,431	48,162	76,043	137,833	17
2,059	7,060	161	692	109,081	180,649	147,279	249,457	18
85,727	99,174	135,175	84,478	106,437	136,753	148,589	103,164	19
449,358	469,135	463,281	370,012	1,288,511	914,644	879,170	755,846	20
2,146,404	2,114,927	2,077,199	1,720,688	7,187,000	4,745,856	4,523,985	3,998,692	
88,165	66,164	42,419	51,715	88,336	67,323	42,559	52,119	21
990,645	722,274	638,847	687,071	992,233	730,823	640,078	690,495	
531,633	746,787	375,009	335,532	4,316,758	3,797,990	3,256,681	4,582,309	22
45,590	52,991	28,110	26,359	378,874	352,247	246,081	177,885	
2,234,083	3,056,443	1,128,052	1,016,432	2,234,125	3,056,660	1,128,152	1,016,432	23
370,983	527,287	183,850	158,837	370,993	527,388	183,926	158,837	
23,781	14,501	11,473	20,712	206,180	107,686	157,227	104,440	24
42,855	36,303	18,932	43,959	42,867	36,525	19,100	44,087	25
152,268	98,976	43,995	121,496	152,598	101,288	45,686	122,702	
5,152	2,117	1,658	1,375	5,389	2,267	1,748	1,435	26
346,973	140,259	80,636	72,540	362,271	151,284	83,641	76,050	
77,851	103,015	89,415	112,642	79,143	107,335	93,556	115,521	27
18,044,939	10,947,648	16,274,142	14,767,901	25,674,282	16,291,088	24,065,888	25,078,076	28
673,817	482,006	765,683	651,149	1,135,422	813,413	1,308,623	1,281,294	
255,823	530,099	3,281	35,453	1,518,820	2,118,861	1,501,863	1,238,431	29
22,070	56,819	557	5,178	191,744	213,873	147,455	124,309	
1,549,575	232,858	1,098,976	2,343,013	3,278,689	3,118,503	4,035,744	5,071,177	30
285,332	50,156	224,416	468,439	629,751	524,318	724,385	950,130	

12.—Principal Exports of Canadian Produce from Canada to United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	VII. Non-Metallic Minerals—concluded.					
	Stone and Its Products—					
1	Abrasives, artificial	cwt.	11,485	50,563	64,866	82,988
		$	35,913	183,204	239,495	289,380
2	Cement, Portland	cwt.	–	–	–	–
		$	–	–	–	–
3	Gypsum, crude	ton	–	–	–	–
		$	–	–	–	–
4	Lime	cwt.	–	–	–	–
		$	–	–	–	–
5	Feldspar	ton	20	10	6	20
		$	565	300	180	940
6	Sand and gravel	ton	–	–	–	–
		$	–	–	–	–
7	Talc	cwt.	15,945	15,121	14,915	18,608
		$	10,003	8,780	8,861	15,260
	Totals, Non-Metallic Minerals[1]	$	**2,324,119**	**1,933,969**	**1,771,253**	**1,952,156**
	VIII. Chemicals and Allied Products.					
8	Acid, sulphuric	cwt.	–	–	–	–
		$	–	–	–	–
9	Acids, other	cwt.	154,836	187,847	181,636	315,380
		$	1,755,890	2,234,853	2,155,707	2,841,150
10	Drugs, medicinal	$	355,046	157,489	295,935	335,224
11	Explosives	$	–	–	–	–
	Fertilizers—					
12	Ammonium sulphate	cwt.	–	–	–	–
		$	–	–	–	–
13	Cyanamid	cwt.	–	–	–	–
		$	–	–	–	–
14	Paints, pigments and varnishes	$	134,001	144,292	196,044	124,604
15	Soap, toilet	lb.	3,667,414	6,437,259	3,864,470	4,729,321
		$	663,990	878,387	523,422	624,438
	Inorganic Chemicals, n.o.p.—					
16	Arsenic, n.o.p	cwt.	–	–	–	–
		$	–	–	–	–
17	Acetate of lime	cwt.	1,032	2,462	2,283	–
		$	2,309	6,607	7,198	–
18	Soda and sodium compounds	cwt.	–	–	–	–
		$	–	–	–	–
19	Cobalt oxide and salts	lb.	114,223	202,080	111,022	86,000
		$	158,324	289,923	160,835	170,950
	Totals, Inorganic Chemicals, n.o.p.[1]	$	163,833	301,196	173,421	176,589
	Totals, Chemicals and Allied Products[1]	$	**3,567,256**	**4,234,278**	**4,036,885**	**4,888,740**
	IX. Miscellaneous Commodities.					
20	Amusement and sporting goods	$	15,645	16,924	39,699	43,792
21	Brushes	$	59,868	111,681	59,291	45,168
22	Containers	$	9,119	5,269	4,098	6,777
23	Household and personal equipment	$	83,175	199,710	209,682	286,852
	Musical Instruments—					
24	Organs	No.	123	89	31	18
		$	11,395	9,053	3,297	2,352
25	Pianos	No.	32	32	16	10
		$	12,251	10,954	5,370	3,330
26	Other	$	26,632	29,116	25,742	8,164
	Scientific and Educational Equipment—					
27	Cameras	$	1,207,112	400,703	6,057	265
28	Films	$	2,145,526	1,341,457	2,049,518	2,006,728
29	Ships and vessels	$	5,181	1,737	2,593	2,214
30	Contractors' outfits	$	7,200	–	–	5,102
31	Electrical energy	k.w.h.	–	–	–	–
		$	–	–	–	–
32	Ice	$	–	–	–	–
33	Settlers' effects	$	405,160	370,809	427,508	474,126
	Totals, Miscellaneous Commodities[1]	$	**4,092,186**	**2,668,575**	**2,941,722**	**3,030,584**
	Totals, Exports, Canadian Produce		**446,872,851**	**410,691,392**	**429,730,485**	**281,745,965**

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—concluded.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
991,997	965,275	1,237,428	1,449,204	1,003,392	1,046,540	1,327,797	1,542,895	1
2,641,744	2,505,348	3,088,318	3,454,453	2,677,657	2,820,811	3,446,155	3,775,924	
273,595	82,860	115,283	4,460	1,022,819	900,202	934,949	837,269	2
102,018	47,288	78,674	3,643	370,935	310,730	339,267	256,552	
663,747	729,093	868,014	855,931	663,747	729,093	868,044	855,931	3
1,034,205	1,183,561	1,240,439	1,048,130	1,034,205	1,183,561	1,240,439	1,048,130	
364,575	401,283	427,074	433,308	378,529	411,055	443,100	456,810	4
331,115	350,756	380,176	401,631	341,660	358,394	391,797	419,522	
30,835	31,134	28,547	28,382	30,885	31,174	28,613	28,481	5
231,385	250,854	227,990	228,631	232,860	251,994	229,970	231,941	
906,928	639,962	792,106	1,909,335	907,084	639,962	792,141	1,909,395	6
276,651	176,404	230,172	442,936	276,864	176,404	230,443	443,537	
190,432	192,809	202,374	201,571	212,632	214,377	225,457	223,591	7
110,185	114,073	124,400	118,528	124,650	126,459	138,390	135,456	
17,662,308	**16,178,552**	**17,994,515**	**18,662,256**	**28,880,831**	**25,949,930**	**27,401,790**	**28,545,096**	
475,784	323,571	245,307	252,259	475,856	323,599	245,339	152,319	8
267,117	179,629	138,927	81,495	267,338	179,732	139,128	81,580	
93,466	115,543	269,917	296,032	252,449	308,742	457,196	616,002	9
571,271	850,200	1,882,549	2,133,182	2,372,263	3,150,212	4,101,544	5,014,949	
12,594	12,934	12,063	17,683	627,061	449,878	660,667	779,625	10
692	985	500	405	121,250	175,096	216,557	235,187	11
19,208	51,419	83,492	135,222	326,958	307,486	318,040	448,339	12
41,876	105,877	151,094	209,539	766,688	657,884	637,149	783,890	
1,621,597	2,376,463	3,041,524	4,092,512	1,709,638	2,412,592	3,065,812	4,337,370	13
3,621,415	4,644,427	5,318,671	6,644,541	3,821,507	4,726,118	5,367,298	7,080,718	
53,973	60,047	74,714	51,922	499,691	420,197	529,293	503,453	14
4,708	158	715	1,187	4,087,906	6,836,546	4,016,785	5,038,593	15
1,070	31	159	238	750,953	947,980	562,836	694,256	
38,091	34,611	34,935	26,908	38,091	34,611	34,965	26,908	16
127,241	113,612	134,073	106,070	127,241	113,612	134,073	106,070	
58,744	72,099	113,569	82,179	59,776	74,561	115,852	82,179	17
179,216	238,686	438,647	354,602	181,525	245,293	445,845	354,602	
309,130	301,737	433,971	614,873	608,323	703,690	747,333	922,132	18
1,671,268	1,362,937	2,022,607	2,327,562	3,601,048	3,666,242	3,919,560	4,208,518	
107,500	147,650	153,350	105,000	261,073	395,089	342,797	244,800	19
205,464	290,985	300,993	199,500	447,228	673,303	617,535	479,780	
2,876,915	2,094,927	3,031,182	3,116,177	5,975,526	5,662,184	6,037,777	5,908,405	
7,721,388	**8,159,913**	**10,779,475**	**12,535,510**	**16,203,760**	**17,365,516**	**19,438,064**	**22,468,462**	
37,798	31,036	55,636	46,208	95,210	77,134	128,203	131,503	20
1,220	261	563	1,117	120,686	178,256	120,060	111,920	21
377,293	324,808	199,524	218,969	683,734	715,120	572,701	616,213	22
63,400	79,055	100,224	99,831	424,598	629,331	676,313	820,831	23
29	25	17	17	468	392	270	232	24
269,009	181,250	217,131	174,821	326,597	231,578	242,276	197,969	
72	71	72	57	821	825	860	837	25
25,580	23,985	26,169	17,725	211,896	211,656	228,426	218,800	
27,919	15,509	10,995	12,215	1,109,432	828,909	297,188	229,512	26
2,982	3,699	5,905	3,424	1,276,461	639,520	128,040	8,266	27
2,271,170	1,397,012	1,330,140	1,928,730	5,101,012	3,512,403	4,265,322	4,790,619	28
313,108	181,432	108,781	83,957	410,183	609,767	209,187	901,269	29
237,716	590,681	388,154	364,659	269,679	600,330	421,969	379,046	30
–	–	1,442,932,363	1,499,087,057	–	–	1,442,993,277	1,499,128,786	31
–	–	3,935,899	4,025,233	–	–	3,938,182	4,028,154	
179,578	137,103	161,720	124,854	179,790	137,356	162,139	124,854	32
6,237,821	5,148,498	5,197,067	5,540,202	6,994,877	5,797,805	5,917,625	6,304,199	33
10,643,561	**8,618,633**	**12,342,976**	**13,336,314**	**18,077,313**	**15,036,359**	**18,263,813**	**20,057,938**	
466,422,789	**478,145,383**	**499,612,145**	**515,049,763**	**1,252,157,506**	**1,228,349,343**	**1,363,709,672**	**1,120,258,302**	

13.—Principal Imports into Canada for Consumption from United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	I. Agricultural and Vegetable Products.					
	A. MAINLY FOOD.					
	Fruits—					
	Fresh—					
1	Apples	brl.	–	–	100	–
		$	–	–	914	–
2	Bananas	bunch	–	–	–	–
		$	–	–	–	–
3	Cranberries	brl.	–	–	–	–
		$	–	–	–	–
4	Grape fruit	lb.	–	–	–	700
		$	–	–	–	39
5	Grapes	lb.	288,264	421,320	246,317	240,605
		$	44,396	54,811	28,782	26,106
6	Lemons	box	491	2,723	4,317	10,544
		$	1,489	12,078	13,326	48,533
7	Melons	No.	–	114	325	–
		$	–	68	63	–
8	Oranges	box	8,629	10,805	8,015	58,603
		$	25,736	34,997	38,191	211,038
9	Peaches	lb.	–	–	–	–
		$	–	–	–	–
10	Pears	lb.	–	3,420	7,000	–
		$	–	978	682	–
11	Pineapples	$	–	–	–	–
12	Plums	bush.	–	–	–	–
		$	–	–	–	–
13	Strawberries	lb.	–	–	–	–
		$	–	–	–	–
	Totals, Fresh Fruits[1]	$	79,779	103,076	83,910	289,123
	Dried—					
14	Currants	lb.	123,847	2,743	1,160	1,684
		$	8,169	346	192	226
15	Dates	lb.	3,541,699	8,742,708	5,486,205	7,432,110
		$	190,729	351,395	236,591	300,145
16	Figs	lb.	49,458	213,819	876,049	322,360
		$	3,803	10,696	53,765	19,778
17	Peaches	lb.	–	–	–	8,750
		$	–	–	–	864
18	Prunes and plums	lb.	14	–	–	–
		$	3	–	–	–
19	Raisins	lb.	999,407	381,336	310,863	236,671
		$	79,013	35,800	25,396	16,787
	Totals, Dried Fruits[1]	$	282,937	407,936	330,263	365,117
20	Canned	lb.	217,606	124,734	66,898	138,156
		$	13,671	9,947	5,190	8,369
21	Jellies and jams	lb.	1,568,196	1,438,509	1,061,771	1,256,632
		$	203,663	183,202	141,892	161,094
22	Fruit juices and syrups	gal.	12,500	23,825	8,364	19,457
		$	23,977	35,344	24,013	31,519
	Totals, All Fruits[1]	$	610,769	756,781	616,284	877,825
	Nuts—					
23	Coco-nuts	No.	1,100	–	–	–
		$	33	–	–	–
24	Coco-nut, desiccated	$	10,606	7,281	4,146	1,317
	Other, not shelled—					
25	Almonds	lb.	–	–	–	440
		$	–	–	–	50
26	Brazil nuts	lb.	165,829	82,162	279,170	332,581
		$	17,929	13,067	41,950	34,243
27	Walnuts	lb.	4,750	–	1,630	934
		$	841	–	242	154
28	Almonds, shelled	lb.	72,278	110,331	115,521	114,073
		$	34,721	51,789	56,755	52,200
	Totals, Nuts[1]	$	138,332	126,806	190,249	218,006

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
201,581	199,011	190,622	154,549	201,589	199,223	194,620	158,420	1
857,435	1,123,915	917,148	861,231	857,583	1,124,839	943,986	903,088	
2,825,150	3,318,447	3,531,015	1,188,351	2,869,947	3,380,790	3,589,693	3,923,944	2
4,933,605	5,497,999	5,204,262	2,055,691	4,987,899	5,571,521	5,246,109	3,554,402	
29,023	19,898	21,689	22,616	29,024	19,899	21,689	22,616	3
216,176	221,253	241,371	243,978	216,183	221,260	241,371	243,982	
16,892,136	19,057,320	19,945,982	24,015,866	17,817,020	19,575,228	20,528,581	25,898,332	4
823,611	921,142	883,007	1,133,036	863,471	941,523	911,099	1,224,229	
16,345,376	22,350,587	33,980,103	26,188,453	16,806,808	23,073,565	34,398,174	26,572,605	5
866,144	1,097,236	1,573,547	1,350,786	939,164	1,189,124	1,620,793	1,394,126	
316,926	246,347	283,517	234,591	385,889	359,088	406,600	344,759	6
1,012,134	1,079,300	1,330,500	1,193,351	1,216,222	1,470,633	1,835,883	1,644,398	
3,520,987	4,512,522	5,735,036	6,529,351	3,520,987	4,512,636	5,740,367	6,529,381	7
382,644	498,663	572,382	731,527	382,644	498,731	573,287	731,539	
2,144,191	2,362,141	2,256,797	2,708,465	2,263,369	2,498,644	2,389,369	2,911,551	8
8,060,048	9,554,567	9,893,629	8,680,870	8,421,635	9,940,781	10,326,874	9,368,082	
13,508,888	15,725,162	20,734,458	20,003,960	13,508,888	15,725,162	20,734,458	20,003,960	9
501,576	663,032	625,848	768,583	501,576	663,062	625,848	768,583	
22,422,846	18,424,307	27,399,706	19,188,122	22,430,147	18,434,357	27,416,131	19,199,747	10
854,961	927,344	1,019,863	1,039,351	855,274	928,565	1,020,907	1,040,148	
526,298	519,042	462,056	495,290	538,737	524,489	464,774	585,799	11
172,013	205,239	268,755	251,392	172,013	205,239	268,755	251,392	12
425,226	544,055	572,402	582,109	425,226	544,055	572,402	582,109	
3,939,207	6,222,419	8,787,468	8,552,251	3,944,707	6,222,419	8,787,468	8,552,251	13
667,917	832,018	1,029,277	1,024,854	668,417	832,018	1,029,277	1,024,854	
20,399,716	23,795,082	24,708,047	20,726,166	21,288,234	24,859,503	25,915,836	23,778,878	
128,080	38,536	17,396	168,263	4,609,481	6,190,608	6,122,795	4,493,344	14
9,653	4,425	2,234	12,766	318,716	626,833	773,965	499,495	
6,356,256	4,503,840	3,634,028	3,615,660	10,033,627	13,885,325	10,970,646	12,043,586	15
563,339	418,600	341,220	316,462	762,820	815,829	664,532	663,974	
2,679,949	1,586,192	1,227,507	1,094,671	4,507,351	4,775,414	4,989,470	4,586,269	16
244,928	128,679	116,861	105,357	373,282	327,653	382,606	360,310	
1,630,022	1,717,252	2,384,785	1,412,494	1,630,022	1,717,532	2,384,785	1,488,416	17
220,349	157,246	222,943	165,922	220,349	157,299	222,943	175,452	
17,324,868	20,092,720	18,957,063	15,267,619	17,367,119	20,107,420	18,962,384	15,270,972	18
1,159,118	1,137,749	1,201,600	1,328,724	1,165,501	1,140,147	1,203,085	1,320,732	
35,768,110	39,321,010	39,775,494	30,893,026	39,497,420	44,710,803	43,656,095	38,322,700	19
2,502,657	2,363,984	1,903,387	1,572,340	2,912,743	2,965,970	2,371,556	2,433,145	
4,998,919	4,455,691	4,126,960	3,764,748	6,071,694	6,311,756	5,999,345	5,808,878	
14,891,158	17,940,832	23,459,351	23,990,071	26,047,533	29,591,401	39,908,271	43,082,076	20
1,455,431	1,585,682	2,032,741	2,393,448	2,156,261	2,373,780	2,978,012	3,425,966	
56,805	117,797	244,117	203,377	2,151,818	2,288,592	1,877,195	2,365,507	21
13,028	22,393	52,908	37,326	327,772	334,862	330,019	392,195	
47,804	45,159	83,857	678,955	76,528	114,131	130,940	758,247	22
118,285	142,003	159,883	393,276	152,133	200,076	210,156	463,095	
27,031,800	30,087,263	31,165,554	27,392,739	30,296,744	34,379,286	35,876,473	34,277,882	
190,062	154,058	110,980	61,587	8,463,347	8,375,017	9,050,925	7,372,409	23
7,330	6,001	5,743	3,498	177,091	188,251	201,747	150,517	
1,559	1,419	495	872	168,737	193,226	162,955	200,805	24
70,060	53,871	39,228	55,010	1,108,414	811,575	1,106,981	863,032	25
10,543	9,216	9,379	8,691	154,512	107,615	148,199	123,099	
1,505,040	805,937	755,905	926,075	1,738,608	1,050,456	1,238,335	1,552,262	26
163,805	136,769	121,452	102,566	185,741	170,738	189,986	153,504	
533,389	447,495	473,948	741,024	1,388,995	2,025,443	1,703,593	1,753,936	27
89,038	90,844	109,609	129,206	165,536	224,521	250,194	239,555	
113,576	43,841	65,085	23,694	1,701,645	2,208,890	2,029,952	2,213,777	28
56,872	27,939	37,009	13,255	660,495	791,361	733,946	756,242	
1,637,719	1,557,318	1,603,718	1,512,154	4,703,067	5,058,030	5,175,287	5,095,109	

13.—Principal Imports into Canada for Consumption from United

No.	Item.	United Kingdom. 1927.	1928.	1929.	1930.
	I. Agricultural and Vegetable Products—con.				
	A. MAINLY FOOD—continued.				
	Vegetables—				
1	Onions $	53,270	67,262	77,009	71,690
2	Potatoes (except sweet) cwt.	-	13	-	-
	$	-	14	-	-
3	Tomatoes, fresh bush.	10	3	14	82
	$	51	26	94	560
4	Canned lb.	7,232	21,659	898	13,617
	$	822	4,246	165	1,660
5	Sauces and pickles gal.	173,990	197,931	167,184	142,084
	$	319,897	354,233	268,929	256,496
	Totals, Vegetables $	374,088	430,179	350,369	332,791
	Grains and Farinaceous Products—				
	Grains—				
6	Beans bush.	47,863	22,090	18,367	13,746
	$	87,395	43,033	60,326	55,071
7	Corn bush.	199	-	-	54
	$	291	-	-	161
8	Oats bush.	11	664	1,276	1,963
	$	15	1,081	1,731	2,186
9	Rice cwt.	30,384	2,532	14,036	1,424
	$	93,612	10,167	44,153	5,772
	Milled Products—				
10	Corn meal brl.	-	-	-	-
	$	-	-	-	-
11	Wheat flour brl.	298	197	136	496
	$	5,230	2,109	1,234	6,471
	Prepared Foods and Bakery Products—				
12	Biscuits lb.	966,232	1,307,412	1,558,495	1,624,113
	$	134,887	168,714	211,636	228,518
13	Cereal foods, perpared $	18,447	21,951	22,954	16,122
14	Macaroni and vermicelli lb.	972	1,275	522	794
	$	116	165	71	83
15	Malt lb.	59,952	110,068	49,656	22,512
	$	2,942	6,111	3,152	1,223
16	Sago and tapioca lb.	19,996	207,031	5,769	29,581
	$	1,154	6,650	352	1,633
	Totals, Grains and Farinaceous Products[1] $	532,632	465,924	557,239	608,301
	Oils, Vegetable, for Food—				
17	Coco-nut oil, n.o.p. gal.	29,335	28,761	56,290	56,163
	$	35,113	35,568	61,503	61,972
18	Cotton-seed oil for canning fish gal.	46,725	58,825	126,955	134,130
	$	56,415	55,256	110,505	119,577
19	Olive oil, n.o.p. gal.	5,489	1,489	1,354	1,282
	$	6,846	4,137	2,973	2,534
20	Peanut and soya-bean oil, n.o.p. gal.	2,353	5,813	71,164	77,457
	$	2,164	5,532	58,714	60,977
	Totals, Oils, Vegetable, for Food[1] $	100,630	101,650	246,755	269,305
	Sugar and Its Products—				
21	Molasses, 56 degrees or less, imported under Preferential tariff gal.	2,368	-	-	-
	$	936	-	-	-
22	Sugar, not above No. 16, D.S. lb.	-	47	-	4
	$	-	200	-	10
23	Sugar, above No. 16, D.S. lb.	2,592	2,300	52	33
	$	9,799	10,879	580	375
24	Candy (incl. chocolate) lb.	3,791,853	3,219,645	3,299,540	3,515,176
	$	960,973	684,296	633,525	633,820
	Totals, Sugar, etc.[1] $	1,114,495	832,817	749,056	727,555
	Tea, Coffee, Cocoa and Spices—				
	Cocoa—				
25	Cocoa beans, not roasted or ground cwt.	39,109	40,218	15,736	19,963
	$	526,357	603,106	190,736	204,747
26	Cocoa butter lb.	493,798	262,252	282,135	337,348
	$	160,535	100,909	97,787	103,281
27	Other $	49,004	16,180	88,156	12,732

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
228,764	221,433	275,472	310,445	427,635	548,521	760,375	649,301	1
281,811	300,647	472,971	769,401	282,055	300,886	473,351	769,777	2
646,821	798,316	539,803	1,345,479	647,508	799,039	540,807	1,346,332	
395,945	495,603	600,871	525,786	427,190	571,277	745,051	631,972	3
1,068,750	1,349,199	1,457,989	1,650,338	1,173,067	1,550,102	1,900,054	1,955,100	
8,952,204	10,204,180	14,210,283	16,926,833	13,977,167	16,443,572	20,356,335	24,085,829	4
720,824	840,162	1,169,546	1,392,824	1,219,379	1,441,089	1,752,644	2,106,447	
99,533	153,334	152,179	175,720	419,254	497,528	474,163	454,566	5
184,462	221,956	247,211	287,985	582,489	659,396	604,396	628,529	
5,311,349	6,496,376	7,337,994	9,196.444	6,594,722	8,175,549	9,299,328	11,020,339	
60,719	47,535	73,264	30,141	595,924	430,880	327,828	226,405	6
190,905	161,059	322,729	187,519	1,126,976	962,585	1,128,112	807,859	
11,450,512	7,484,774	9,583,974	9,153,016	14,171,275	14,991,064	14,128,888	14,839,040	7
8,641,324	6,771,583	9,346,215	8,785,681	10,910,611	13,057,832	13,792,143	14,149,266	
1,832,358	3,092,331	3,035,480	3,723,985	1,833,369	3,092,999	3,036,756	3,725,948	8
794,721	1,783,613	1,544,595	1,873,679	794,736	1,784,698	1,546,326	1,875,865	
62,838	164,049	198,313	194,496	523,547	675,842	592,879	578,807	9
266,605	561,517	584,239	648,049	2,115,787	2,357,982	1,891,053	1,895,785	
41,414	43,354	46,749	50,156	41,414	43,402	46,749	50,156	10
177,849	216,625	234,892	239,538	177,849	216,937	234,892	239,538	
57,178	69,488	75,246	87,538	57,488	69,733	75,432	88,077	11
448,933	527,496	539,037	593,328	454,295	530,160	540,853	600,338	
1,721,557	2,146,762	1,987,128	1,787,481	2,817,076	3,588,008	3,724,962	3,569,592	12
211,760	261,986	262,432	232,667	364,265	453,786	505,687	492,769	
305,457	253,818	282,269	308,212	326,650	278,633	306,873	330,078	13
1,568,864	1,848,511	2,817,834	2,694,150	2,007,452	2,095,189	3,074,380	3,366,436	14
152,465	176,166	246,670	218,869	190,071	196,500	265,170	262,773	
21,350,397	32,180,126	40,881,816	25,951,335	21,410,349	32,524,599	41,195,472	26,139,077	15
556,636	963,044	1,276,278	682,769	559,578	981,491	1,293,830	692,544	
155,358	232,662	158,556	454,497	2,824,106	3,379,833	3,975,002	2,931,104	16
12,533	23,646	26,541	41,827	102,771	133,080	157,149	122,284	
12,582,044	12,784,443	16,390,339	16,695,799	18,216,352	22,358,442	23,737,007	25,082,671	
7,638	8,209	25,263	14,984	37,111	36,970	81,795	71,147	17
9,397	12,428	32,208	18,292	44,636	47,996	93,976	80,264	
24,761	29,773	119	221	73,726	90,416	127,074	134,351	18
28,339	30,033	145	240	88,892	89,616	110,650	119,817	
9,489	12,796	19,125	21,614	305,069	283,493	354,702	359,358	19
20,751	25,589	35,297	38,003	489,035	552,420	615,805	574,381	
43,308	14,946	2,548	5,488	84,041	87,454	126,408	135,551	20
41,500	13,332	2,853	6,455	85,372	90,202	120,290	117,501	
127,843	108,669	107,868	88,052	735,883	808,648	991,460	941,895	
–	–	–	–	4,768,283	5,098,890	4,507,093	4,586,160	21
–	–	–	–	1,761,071	2,212,249	1,692,874	1,536,137	
407,106	127,401	181,532	448	11,295,589	8,947,779	8,191,708	8,057,423	22
1,099,739	384,491	399,142	1,243	34,947,666	31,475,335	25,309,147	20,310,269	
49,906	33,998	57,536	49,902	444,077	722,814	829,760	1,413,904	23
231,385	170,147	227,302	175,638	1,680,039	3,245,527	2,874,108	3,950,400	
864,084	1,153,869	1,075,638	1,331,441	5,096,531	4,891,600	4,903,326	5,554,293	24
167,259	221,886	205,386	237,968	1,224,526	1,030,678	962,965	1,027,731	
2,126,921	1,297,776	1,555,894	1,430,810	40,486,316	38,821,678	31,757,316	27,987,156	
36,001	30,520	31,664	26,152	137,667	177,783	158,013	189,097	25
535,650	490,754	420,521	312,008	1,786,435	2,687,097	1,942,164	1,971,066	
524,065	978,466	1,548,869	163,360	5,195,296	5,408,622	5,073,480	5,867,169	26
182,950	333,799	489,053	43,446	1,444,354	1,916,510	1,586,814	1,476,402	
103,325	132,040	110,466	121,284	190,161	185,287	273,524	203,957	27

13.—Principal Imports into Canada for Consumption from United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	I. Agricultural and Vegetable Products—con.					
	A. Mainly Food—concluded.					
	Tea, Coffee, Cocoa and Spices—concluded.					
	Coffee and Chicory—					
1	Coffee, green	lb.	1,163,117	2,488,810	3,219,477	2,508,577
		$	314,574	626,965	830,481	620,318
2	Other coffee and chicory	$	23,302	39,156	28,969	34,444
	Spices—					
3	Ginger, unground	lb.	115,145	256,397	84,469	80,488
		$	11,295	22,813	9,350	9,952
4	Mustard, ground	lb.	640,948	673.616	825,022	669,853
		$	346.111	347,170	441,494	316,360
5	Vanilla beans, crude	lb.	2.005	2,500	500	10
		$	4,439	5,263	395	14
	Totals, Spices[1]	$	481.832	614,702	704,414	552,846
6	Tea	lb.	15,888,123	14,664.322	16,245,586	15,424,517
		$	5,848,530	5,270.929	5,282,578	4,819,006
7	Yeast	lb.	580	464	1,588	4,019
		$	247	78	416	688
8	Hops	lb.	208,899	142,390	198,482	226,684
		$	53,910	33.956	25,680	22.485
9	Liquorice paste	lb.	3,367	1,440	224	3,732
		$	424	217	60	441
10	Malt extract	lb.	206,546	372,499	397.685	574.415
		$	18,646	26,733	25,946	52,573
	Totals, Agricultural and Vegetable Products—A. Mainly Food[1]	$	**10,417,686**	**10,125,184**	**10,039,236**	**9,500,516**
	B. Other than Food.					
	Beverages, Alcoholic—					
11	Brewed (beer, etc.)	gal.	114,136	161,228	199.704	209,860
		$	239,145	322,617	405,522	436,923
12	Distilled spirits	pf. gal.	1,217,514	1,849,255	1,934,302	1,792,887
		$	25,158,924	38,243,427	39,733,695	36,823,582
	Wines—					
13	Non-sparkling	gal.	13,868	16,894	24,907	38,131
		$	59,780	111,206	166.470	237,621
14	Sparkling	$	10,188	15,476	9,140	10,036
	Totals, Beverages, Alcoholic	$	25,468,037	38,692,726	40,314,836	37,508,162
	Gums and Resins—					
15	Chicle gum, crude	lb.	–	–	1.450	–
		$	–	–	381	–
16	Lac, crude	cwt.	15	6	5	49
		$	731	306	234	2,677
17	Resin or rosin	cwt.	65	28	52	387
		$	746	310	1,404	5,732
	Totals, Gums and Resins[1]	$	25,527	28,886	36,195	52,095
18	Oilcake and meal	cwt.	–	–	–	–
		$	–	–	15	–
	Oils, Vegetable, not Food—					
19	Chinawood	cwt.	–	–	–	4
		$	–	–	–	126
20	Coco-nut, palm, etc., for mfr. of soap	gal.	43,836	40,093	49,156	112,931
		$	38,729	34,901	42,367	85,859
21	Cotton-seed, crude, for refining	cwt.	11,593	392	47,686	138,616
		$	107,825	3,548	346,200	961,700
22	Essential (except peppermint)	lb.	113,549	118,363	82,051	94,330
		$	116,948	112,854	141.170	188,095
23	Flaxseed or linseed	lb.	519,111	428,160	412,589	1,159,900
		$	39,894	31,407	30,314	101,621
24	Peanut, for refining for food	cwt.	3,468	–	48,153	99,498
		$	31,947	–	423,810	747,436
	Totals, Oils, Vegetable, not Food[1]	$	453,987	286,750	1,209,234	2,359,787

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
118,968	67,191	42,658	97,690	24,907,691	27,126,506	25,126,041	28,660,517	1
28,290	16,426	10,758	17,337	5,676,759	5,667,068	5,856,317	5,924,635	
423,442	498,306	607,336	673,781	453,242	543,039	646,971	725,084	2
36,001	13,006	15,718	19,527	1,147,497	732,336	425,504	474,808	3
3,492	1,682	3,102	3,072	150,516	59,476	48,542	55,425	
280.856	244,753	331,485	231,639	922,245	918,371	1,156,507	903,292	4
33,335	27,957	36,151	27,820	379,518	375,128	477,645	344,392	
34,598	46,481	49.250	60,665	54,833	53,326	56,742	79,621	5
116.228	115,173	97,365	105,776	174,180	125,817	107,966	132,699	
258,879	247,240	286,474	242,811	1,354,733	1,487,515	1,580,639	1,499,001	
164,718	107,038	53,277	84.294	37,091,340	38,658,494	39,425,956	38,102,295	6
34,981	30,695	25,387	38,267	12,236,714	12,310,414	11,752,521	10,694,379	
2.315,130	2,161,539	2,185,968	2.430,934	2.322,887	2,167,396	2.188.237	2,455,984	7
696,273	406,582	356,296	396,303	697,244	408,346	357,503	399,406	
1,699,615	1,466,038	1,625,829	1,442,831	2,251,097	2,068,895	2,399,294	2,802,861	8
587,007	481,160	445,441	307,249	749,604	709,344	682,493	580,162	
1,680,406	1,632,245	1,580,022	1,543,157	1,686,388	1,640,179	1,580,246	1,546,889	9
229,301	231,101	223,686	218,395	230,067	232,177	223,746	218,836	
3,624,341	3.649,898	3,466,700	3,857,135	3,831,502	4,022.855	3,865,045	4,431,746	10
278,792	282,364	278,533	299,718	297,502	309,151	304,492	352,345	
52,304,197	**55,610,666**	**61,572,871**	**59,170,374**	**126,355,107**	**136,267,062**	**132,261,858**	**128,688,803**	
65	13	519	5.949	153,105	234,701	242,100	259,003	11
147	26	1,004	5,624	333,383	428,673	495,531	541,961	
2.168	2.011	1,729	1,174	1,633.254	2,457,131	2,604,769	2,446,800	12
7,862	6,386	4,221	3,007	27,342,743	42,206,017	44,750,649	41,283,758	
1 864	190	33	27	684,132	828,979	990,569	1,138,633	13
1,718	353	334	183	958,894	1,582,585	1,977,598	2,145,446	
–	–	–	–	677,295	1,682,912	1,620,333	1,055,322	14
9,727	6.765	5,559	8,814	29,312,315	45,900,187	48,844,111	45,026,487	
748,242	977,861	810,436	835,391	1,125,547	1,186,255	1,229,885	1,420,817	15
380,439	447.657	344,101	347,916	558,276	553,605	552,407	655,824	
15,545	15,108	18,436	16,153	15,732	15,169	19,430	17,363	16
637,411	769,810	853.938	705,063	642,984	773,247	900.097	740,637	
316,371	333,677	303,214	343,394	317,849	334,544	304,921	344,937	17
1,343,918	1,089,397	1,078,178	1,189,375	1,356.997	1,093,382	1,097,223	1,208,210	
2,961,276	2,907,872	2,956.844	2,952,867	3,270,323	3,126,920	3,348,543	3,431,591	
247,425	102.927	151,834	246,533	255,921	113,218	162.851	277,081	18
377,283	209,644	337,785	486,012	393,183	229,469	359,973	548,642	
42.447	42,461	52,701	60,020	44,941	45,066	55,335	61,861	19
531.573	686,444	672.536	789,986	562,366	726,472	708,937	813,937	
2,749.763	3,180,403	3,137 831	2,624,432	3,177,800	3.377,856	3,241,587	2,874,972	20
2,228,777	2,355,904	2,295,071	1,957,686	2,602,346	2,525,341	2,384,627	2,143,817	
265.914	618,416	253,971	258.952	297,706	623,148	302.917	400.653	21
2,141,172	5,205,047	2,100,209	1.985,153	2,421.260	5,244,106	2,449,817	2,975,394	
261,946	256,518	247,230	303,869	541,553	572.215	508,899	560,044	22
392,486	394.265	373,771	496,088	797.587	864.414	842,490	1,021,053	
352,680	280,802	274,560	437,424	885,718	725,084	705,433	1,832,998	23
44,775	35,700	34,741	65.530	86,247	68.828	66,977	190,549	
92,641	22.717	51,405	90,839	374,460	52,148	206,288	321,924	24
915,523	234,195	421,129	733,618	3,490,799	478,201	1,740,035	2,587,498	
7,013,847	9,713,631	7,176,308	7,164,969	10,912,499	10,892,737	9,817,721	11,302,236	

13.—Principal Imports into Canada for Consumption from United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	I. Agricultural and Vegetable Products—concluded.					
	B. OTHER THAN FOOD—concluded.					
1	Plants, trees, shrubs and vines	$	30,930	56,012	67,552	82,033
	Rubber—					
2	Raw (incl. balata)	lb.	141,178	165,212	420,326	9,251
		$	54,573	65,604	79,530	4,674
3	Recovered	lb.	–	–	5	–
		$	–	–	6	–
4	Thread	lb.	5,236	9,057	20,200	32,203
		$	8,735	11,533	20,893	31,452
5	Pneumatic tire casings	No.	124	186	759	657
		$	1,289	1,831	3,531	7,626
6	Inner tubes, n.o.p	No.	58	74	40	40
		$	123	169	316	119
	Totals, Rubber[1]	$	679,031	724,496	697,774	576,582
	Seeds—					
7	Clover	lb.	281,494	356,939	1,193,854	552,242
		$	81,209	92,073	209,378	96,074
8	Flax	bush.	1,036	12	179	–
		$	4,148	818	1,282	–
9	Timothy	lb.	500	–	–	–
		$	54	–	–	–
	Totals, Seeds[1]	$	258,960	263,882	360,348	342,666
	Tobacco—					
10	Unmanufactured	lb.	115,232	22,311	44,909	2,088
		$	51,072	29,625	55,630	1,654
11	Cut	lb.	143,310	134,362	124,321	114,046
		$	473,318	464,451	430,460	393,212
12	Other manufactured	$	275,078	307,239	292,155	316,890
	Totals, Tobacco	$	799,468	801,315	778,245	711,756
13	Broom corn	$	–	–	166	–
14	Hay	ton	–	–	–	–
		$	–	–	–	–
15	Starch, including farina, etc	lb.	109,779	232,045	201,863	146,596
		$	7,631	13,366	11,966	9,693
16	Tar, pine, crude	gal.	3,654	2,678	9,726	4,748
		$	1,511	955	1,608	893
17	Turpentine, spirits of	gal.	816	53	2,573	159
		$	845	121	1,527	261
	Totals, Agricultural and Vegetable Products—B. OTHER THAN FOOD[1]	$	**27,836,343**	**41,008,654**	**43,631,325**	**41,778,766**
	Totals, Agricultural and Vegetable Products	$	**38,254,029**	**51,133,838**	**53,670,561**	**51,279,282**
	II. Animals and Animal Products.					
	Animals—					
18	For exhibition	$	1,000	–	1,400	7,000
19	For improvement of stock	$	144,408	207,829	242,486	208,579
20	Bone dust and ash, charred bone	cwt.	1,799	15,226	16,447	12,157
		$	4,638	35,827	54,733	24,346
21	Bone, ivory and shell products, n.o.p	$	71,269	51,107	17,733	15,264
22	Feathers and quills	$	53,283	54,879	97,081	90,456
	Fishery Products, n.o.p.[2]—					
	Fresh—					
23	Halibut	lb.	–	–	–	–
		$	–	–	–	–
24	Oysters, shelled	gal.	–	–	–	–
		$	–	–	–	–
25	Oysters, other	$	–	–	–	–
26	Other fresh fish	$	3,221	1,594	2,995	1,074

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[1] Totals include other items not specified. [2] Not including turtles, shell products, seal skins, fish oils and ambergris.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
409,537	422,013	520,716	558,430	1,365,757	1,490,115	1,792,171	1,913,447	1
45,444,648	52,604,713	72,629,626	70,003,561	50,231,202	58,203,865	77,716,891	73,339,973	2
20,357,953	19,335,999	16,450,361	14,052,161	22,317,583	21,392,409	17,415,202	14,715,267	
8,692,535	10,217,666	178,593	170,868	8,692,535	10,218,666	178,598	170,868	3
1,061,909	873,123	1,249,054	1,148,065	1,061,909	873,243	1,249,060	1,148,065	
145,994	227,935	208,443	233,112	151,230	237,023	228,701	265,315	4
217,500	286,493	219,692	220,347	226,235	298,053	240,635	251,799	
20,276	21,186	20,146	19,808	20,497	21,381	20,908	21,082	5
280,858	262,713	234,602	274,554	283,385	264,721	238,170	285,343	
23,287	45,715	20,979	3,731	23,393	45,795	21,019	3,871	6
52,106	88,392	30,922	9,555	52,295	88,580	31,238	9,882	
24,657,741	23,775,356	21,332,253	18,586,040	27,377,947	26,671,064	23,090,983	20,025,316	
1,303,763	930,584	640,320	786,136	2,370,034	2,138,336	1,907,818	1,350,598	7
323,153	219,160	124,698	136,556	586,468	498,081	346,280	235,283	
39,953	38	20,290	50,046	831,675	313,830	399,964	1,558,993	8
80,417	102	33,945	94,992	1,564,839	576,441	715,358	3,190,199	
6,659,674	8,247,363	7,194,155	8,054,238	6,570,174	8,247,363	7,220,905	8,054,238	9
440,438	408,676	444,656	543,873	440,492	408,676	448,339	543,873	
1,337,381	1,079,220	1,011,205	1,323,192	3,492,183	2,280,536	2,242,651	5,061,255	
15,933,267	16,853,796	17,441,819	15,878,880	17,446,774	18,475,772	18,726,618	17,113,472	10
5,170,848	5,594,946	5,618,975	5,363,643	6,473,167	7,018,880	6,766,285	6,471,626	
166,689	173,065	168,756	177,180	343,513	337,130	317,921	318,400	11
184,336	193,820	192,519	202,452	674,515	673,376	636,091	609,376	
57,025	70,313	83,940	94,555	454,331	508,860	536,447	540,362	12
5,412,210	5,859,079	5,895,434	5,660,650	7,602,013	8,201,116	7,938,823	7,621,364	
380,844	377,883	425,035	462,254	382,214	377,883	427,636	462,254	13
5,464	8,484	5,380	4,502	5,464	8,484	5,380	4,502	14
92,016	129,035	83,192	61,715	92,016	129,035	83,192	61,715	
2,450,594	2,880,909	3,474,743	3,231,275	4,693,145	6,566,004	7,169,134	7,209,807	15
138,063	162,489	228,533	165,820	217,829	303,952	355,357	277,185	
332,671	405,546	420,161	344,329	349,329	424,337	466,634	438,921	16
100,035	102,910	111,360	91,660	106,325	108,446	122,409	113,984	
970,397	989,301	1,078,294	1,171,338	971,739	995,395	1,081,359	1,172,082	17
851,496	582,275	594,346	611,517	852,749	587,422	596,445	612,572	
44,800,346	**46,598,367**	**42,094,581**	**39,581,759**	**86,743,014**	**101,918,498**	**100,865,386**	**98,360,014**	
97,104,543	**102,209,033**	**103,667,472**	**98,752,133**	**213,098,121**	**238,185,560**	**233,130,244**	**227,048,817**	
1,441,967	1,381,411	1,845,326	1,558,629	1,470,967	1,381,411	1,846,726	1,565,629	18
309,542	455,260	493,891	496,545	460,294	698,414	738,119	737,405	19
42,269	34,405	32,824	25,755	47,343	57,688	59,075	47,295	20
139,184	137,286	112,910	87,912	147,735	183,459	194,336	151,013	
162,972	186,581	227,902	231,276	293,754	300,070	303,232	307,328	21
108,251	89,954	138,297	113,367	225,584	207,168	316,696	266,145	22
418,712	889,807	650,558	100,413	1,247,872	1,771,212	1,578,063	1,171,048	23
47,428	87,018	64,048	7,659	142,040	180,125	169,649	134,736	
118,034	126,569	152,474	138,085	118,034	126,569	152,474	138,085	24
300,448	330,911	381,524	360,596	300,448	330,911	381,524	360,596	
23,853	24,980	24,810	25,113	23,963	25,283	24,954	26,590	25
153,652	166,141	227,869	194,274	275,225	310,161	408,165	397,188	26

13.—Principal Imports into Canada for Consumption from United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	II. Animals and Animal Products—continued.					
	Fishery Products, n.o.p.[2]—concluded.					
	Dried, Salted, Smoked or Pickled—					
1	Cod	lb.	200	–	32,526	–
		$	4	–	3,606	–
2	Herring	lb.	886,782	1,021,491	1,444,314	1,414,983
		$	66,382	81,535	114,218	108,471
3	Other	$	3,780	1,230	5,408	10,842
	Canned—					
4	Sardines, 8 oz. or less	box	34,612	85,226	56,155	86,766
		$	2,812	7,974	3,589	7,114
5	Sardines, other	box	4,845	1,155	1,942	180,739
		$	535	206	245	17,069
6	Other canned fish	$	104,948	127,248	112,510	110,655
	Totals, Fishery Products, n.o.p.[1]	$	186,250	226,045	251,542	262,666
	Furs and Fur Skins—					
	Unmanufactured—					
7	Undressed (including marine)	$	1,050,162	916,967	874,341	611,781
8	Other	$	221,433	278,212	200,546	161,859
9	Manufactured	$	38,460	38,692	36,186	38,974
	Totals, Furs and Fur Skins	$	1,310,055	1,233,871	1,111,073	812,614
10	Bristles, animal	lb.	9,646	18,376	8,349	6,338
		$	14,314	20,023	11,973	11,993
11	Hair and mfrs. of, n.o.p	$	11,360	14,425	23,454	10,746
	Hides and Skins—					
12	Calf	cwt.	–	–	–	1,907
		$	–	–	–	25,778
13	Cattle	cwt.	1,927	5,636	3,852	5,155
		$	23,926	109,167	75,350	73,203
14	Sheep	cwt.	1,079	87	1,029	114
		$	31,425	1,439	29,456	5,104
	Totals, Hides and Skins[1]	cwt.	3,969	6,419	5,458	8,064
		$	94,347	128,244	115,880	128,689
	Leather—					
15	Unmanufactured	$	728,223	1,501,004	1,280,952	1,170,663
	Manufactured—					
	Boots and shoes, n.o.p.—					
16	Men's	pair	186,722	221,940	191,099	210,936
		$	579,455	683,343	680,259	721,585
17	Women's	pair	94,072	55,746	49,104	47,631
		$	144,015	99,441	93,210	87,482
18	Children's	pair	75,133	51,232	59,252	49,371
		$	57,465	41,756	55,330	46,124
19	Gloves and mitts	$	185,783	175,570	136,978	156,621
	Totals, Leather[1]	$	2,032,368	2,837,381	2,564,152	2,448,336
	Meats—					
20	Beef, fresh	lb.	445	1,020	132,084	303,655
		$	112	98	12,080	31,491
21	Mutton, fresh	lb.	43,154	11,716	–	39,884
		$	4,249	1,003	–	4,249
22	Pork, fresh	lb.	–	–	–	–
		$	–	–	–	–
23	Bacon and hams	lb.	1,893	89,931	1,658	1,178
		$	2,897	12,393	712	589
24	Canned meats	lb.	1,625,147	542,950	637,485	252,024
		$	280,368	110,960	99,526	59,784
25	Pork, barrelled in brine	lb.	200	600	–	–
		$	33	87	–	–
26	Pork, dry salted	lb.	–	–	–	–
		$	–	–	–	–
27	Sausage	lb.	67	43	64	–
		$	13	42	29	–
28	Soups, all kinds	$	1,280	4,070	1,512	2,302
	Totals, Meats[1]	$	435,632	310,040	277,679	251,871

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[1] Totals include other items not specified.

[2] Not including turtles, shell products, seal skins, fish oils and ambergris.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
45,232	26,787	16,525	14,444	5,301,602	11,775,343	8,173,867	7,428,084	1
4,271	3,027	2,139	1,702	272,230	509,375	400,624	348,270	
719,856	674,918	674,980	514,576	7,499,525	6,678,669	6,861,121	5,694,866	
74,034	71,989	67,099	34,994	337,968	318,919	660,002	289,749	
29,591	38,353	36,042	38,050	223,632	203,353	197,558	214,430	3
52,809	35,417	58,037	127,670	6,446,976	7,319,532	8,342,256	8,593,229	4
5,954	4,272	6,522	11,296	498,694	619,452	651,451	706,717	
21,579	6,747	12,910	51,004	127,460	113,412	145,214	415,881	5
4,825	1,496	2,450	6,136	24,265	27,853	37,590	59,091	
250,682	239,675	403,914	442,878	527,862	571,095	820,716	937,554	6
985,947	1,067,487	1,320,073	1,239,603	2,790,455	3,290,015	3,685,037	3,695,431	
8,218,433	11,097,336	11,862,535	7,206,227	9,953,730	13,289,863	14,069,793	8,476,974	7
1,334,539	1,110,625	1,185,205	1,669,599	3,281,370	3,206,436	2,836,391	3,180,994	8
73,439	96,028	194,985	201,684	130,024	157,522	259,656	295,981	9
9,626,411	12,303,989	13,242,725	9,077,510	13,365,124	16,653,821	17,165,840	11,953,949	
197,844	198,489	226,826	222,383	259,820	260,994	273,835	279,978	10
313,798	291,040	329,557	359,934	384,458	364,226	385,401	439,417	
239,263	159,127	257,123	379,978	281,229	194,460	324,699	447,712	11
70,971	79,786	55,737	59,475	81,687	88,507	60,580	67,715	12
1,658,287	2,194,407	1,767,450	1,547,543	1,947,738	2,461,515	1,929,292	1,754,982	
358,392	353,256	275,789	259,266	452,680	534,816	384,367	369,115	13
4,352,993	6,824,780	6,099,308	3,713,055	5,833,279	10,324,681	8,613,120	5,460,207	
26,390	38,317	32,611	33,674	31,175	38,811	35,874	35,624	14
731,133	980,513	991,438	865,753	885,574	990,881	1,086,080	916,766	
463,535	480,058	378,135	362,830	579,085	678,670	507,773	486,442	
7,092,223	10,184,917	9,286,066	6,267,935	9,057,183	14,140,338	12,429,221	8,402,075	
4,354,009	4,398,312	4,637,927	4,679,656	5,134,475	5,960,105	6,009,148	5,919,500	15
131,343	110,802	80,668	102,382	322,697	337,534	275,937	319,780	16
308,200	327,068	256,927	285,000	891,531	1,018,232	943,269	1,017,428	
249,661	292,373	369,165	421,680	359,956	359,917	471,964	554,150	17
855,073	1,065,140	1,355,865	1,432,055	1,052,151	1,205,218	1,598,989	1,734,942	
19,829	21,495	24,258	43,182	105,207	75,005	84,367	94,107	18
21,486	20,059	21,888	33,868	86,103	64,225	78,476	83,606	
15,742	14,517	15,999	18,009	806,073	883,059	1,064,406	1,550,022	19
6,454,844	6,843,848	7,235,884	7,352,782	9,236,368	10,518,094	10,998,029	11,537,331	
126,466	128,849	124,831	191,286	176,333	331,928	3,292,158	4,536,114	20
48,307	60,258	58,873	82,516	52,672	73,499	309,643	452,602	
770,246	727,661	574,400	459,233	1,721,453	2,295,163	4,003,484	4,979,227	21
179,249	165,094	134,882	111,715	298,813	362,926	563,080	661,687	
1,864,866	1,137,362	523,876	1,179,597	1,864,866	1,137,362	523,876	1,179,597	22
392,468	185,532	85,605	178,696	392,468	185,532	85,605	178,696	
832,049	2,792,761	2,876,625	7,720,204	834,003	2,883,016	2,878,599	7,721,635	23
159,697	336,795	379,994	1,121,267	162,624	349,318	380,831	1,121,957	
309,483	284,482	395,996	512,710	3,955,012	4,022,968	5,918,875	7,029,956	24
62,148	63,617	75,333	96,443	606,011	558,630	802,422	932.488	
7,705,176	7,753,592	9,893,248	11,566,469	7,710.576	7,758,322	9,895,648	11,574,669	25
980,837	895,477	1,151,676	1,298,312	981.627	896,070	1.152,035	1,299,418	
1,220,307	788,053	1,229,143	1,809,031	1,220.307	788,053	1,229,143	1,809,151	26
181,113	101,589	171,908	251,489	181,113	101,589	171,908	251,508	
411,124	457,839	490,625	588,232	412,638	458,620	496,316	594,500	27
152,431	163,646	178,376	218,775	153,203	164,018	180,717	220,488	
1,400,264	1,459,869	1,847,074	1,955,277	1,402,113	1,464,731	1,850,607	1,974,052	28
3,727,727	3,609,366	4,282,706	5,634,979	4,561,648	4,585,535	5,904,979	7,599,473	

13.—Principal Imports into Canada for Consumption from United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	II. Animals and Animal Products—concluded.					
	Milk and Its Products—					
1	Butter	lb.	1,418,444	1,325,190	610,570	1,128,672
		$	504,679	457,809	228,512	413,369
2	Cheese	lb.	46,923	86,815	75,768	194,885
		$	16,488	28,999	28,938	58,357
3	Other	$	9,946	5,101	5,766	2,584
	Oils, Fats, Greases and Waxes—					
4	Cod-liver oil	gal.	1,474	1,945	2,440	7,179
		$	1,324	2,050	3,344	6,615
5	Grease, rough, for mfr. of soaps and oils	cwt.	445	64	–	2,446
		$	3,247	389	–	19,714
6	Lard	lb.	4,493	650	96	48
		$	919	123	19	10
7	Lard compound	lb.	20,194	22,857	22,400	11,550
		$	2,467	2,342	2,416	1,139
	Totals, Oils, Fats, etc.[1]	$	26,583	20,245	18,144	44,537
8	Eggs in shell	doz.	333	85	13,542	48
		$	177	197	3,031	281
9	Eggs, n.o.p	lb.	417	70,974	722,161	3,588
		$	191	17,752	120,992	1,632
10	Gelatine	lb.	355,384	332,724	296,785	326,084
		$	74,508	66,872	67,525	74,633
11	Glue, powdered or sheet	lb.	1,562,026	2,159,295	2,126,674	2,145,469
		$	149,751	224,431	250,521	237,632
12	Sausage casings	$	143,705	29,363	–	–
	Totals, Animals and Animal Products[1]	$	**5,404,629**	**6,099,435**	**5,664,451**	**5,288,528**
	III. Fibres and Textiles.					
	Cotton—					
13	Raw, including linters	lb.	1,059	92,266	15,954	332,455
		$	311	11,221	3,343	73,134
	Yarns, Thread and Cordage—					
14	Cordage and twine	lb.	213,963	231,145	107,662	139,189
		$	56,121	65,381	28,480	30,477
15	Crochet and knitting	lb.	6,285	3,156	850	805
		$	11,555	5,738	1,065	1,325
16	Yarn, No. 40 and finer	lb.	856,184	903,370	1,161,187	989,920
		$	663,294	667,857	951,227	741,663
17	Yarn, for mfr. of thread	lb.	–	–	458,836	453,502
		$	–	–	377,877	364,191
	Piece Goods—					
18	Not bleached	yd	7,717,028	9,329,995	8,659,477	5,981,914
		$	623,139	757,359	885,553	633,677
19	Canton flannel, etc	yd.	731,330	563,567	385,695	417,893
		$	116,137	98,356	107,002	100,151
20	Plain shirtings, etc	yd.	579,946	771,047	872,944	449,971
		$	104,020	123,445	131,815	63,627
21	Bleached or mercerized	yd.	4,014,138	4,890,715	6,676,947	6,690,034
		$	721,853	800,256	1,012,796	1,051,594
22	Printed, n.o.p	yd.	4,619,602	5,470,924	8,339,879	7,148,496
		$	1,008,418	1,147,180	1,677,236	1,384,481
23	Yarn or piece dyed	yd.	23,145,648	18,418,949	16,684,921	13,762,158
		$	5,374,105	3,948,931	3,392,417	2,642,444
24	With cut pile (velveteens and corduroys)	yd.	839,227	1,162,624	1,481,472	1,337,479
		$	561,466	711,028	802,239	704,130
	Lace and Embroidery—					
25	Embroideries	$	21,847	28,786	37,237	63,600
26	Lace, net and mfrs. of	$	1,286,687	1,134,176	707,236	628,774
	Wearing Apparel—					
27	Socks and stockings	doz. pr.	19,806	19,864	11,051	19,090
		$	53,281	48,841	29,860	51,441
28	Other clothing	$	365,534	372,334	489,955	443,866
29	Blankets, household	$	43,019	43,252	17,644	26,645
30	Curtains	$	–	–	299,068	253,045
31	Handkerchiefs	$	988,252	919,679	743,023	813,442
32	Quilts, etc., not coloured	$	347,243	284,161	145,442	133,718
33	Sheets and pillow-cases, not coloured	$	259,446	309,230	371,371	429,376
	Totals, Cotton[1]	$	15,133,478	13,791,342	13,616,887	11,843,311

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
59,057	104,079	46,681	176,905	7,190,267	15,626,007	25,609,915	41,919,372	1
24,945	43,003	21,474	76,814	2,548,856	5,532,910	9 028,528	14,471,688	
506,749	471,544	357,281	386,370	1,340,017	1,669,992	1,936,196	2,063,898	2
180,462	186,204	135,204	135,468	459,929	570,141	572,049	627,107	
51,870	35,710	40,496	60,100	109,987	76,608	90,600	116,443	3
20,919	34,657	14,567	8,757	262,256	251,480	181,566	210,183	4
21,991	28,526	16,364	12,222	199,183	248,563	204,872	179,717	
144,136	128,240	112,470	139,612	159,388	142,065	122,389	156,330	5
1,194,109	1,042,549	972,775	1,119,678	1,312,738	1,130,155	1,052,082	1,251,280	
1,532,820	453,101	948,175	948,140	1,537,314	453,938	948,271	948,204	6
196,717	48,508	110,386	95,715	197,636	48,676	110,405	95,728	
582,531	237,552	1,374,756	301,470	947,216	1,075,009	1,510,132	651,797	7
61,181	24,507	131,975	29,716	97,475	88,959	144,243	60,700	
1,773,633	1,456,375	1,528,618	1,540,209	2,249,550	1,931,457	1,946,187	2,020,852	
3,070,762	939,983	1,078,258	2,796,383	3,120,940	1,000,278	1,138,207	2,853,277	8
1,301,410	449,894	380,323	936,422	1,317,484	476,605	395,513	950,357	
372,651	793,319	412,150	496,667	1,691,359	1,625,956	2,861,183	686,003	9
86,430	197,431	112,879	226,133	329,119	402,790	651,541	329,971	
227,298	257,573	298,465	264,452	1,180,306	1,350,782	1,698,167	1,763,807	10
171,071	215,062	230,422	203,688	413,549	472,630	590,706	658,832	
473,949	580,000	537,190	810,672	2,310,742	3,245,594	3,201,625	4,454,439	11
64,399	77,778	66,336	109,502	248,475	367,734	371,436	498,159	
215,407	204,498	223,072	220,471	1,955,148	2,121,092	2,163,664	1,547,994	12
35,437,384	**40,582,857**	**42,654,255**	**37,388,120**	**53,214,135**	**65,790,021**	**71,661,754**	**69,853,833**	
149,666,430	146,132,355	150,839,641	125,432,749	149,743,841	146,224,621	151,126,982	126,069,888	13
20,925,417	25,616,881	29,027,014	22,123,264	20,934,964	25,628,102	29,069,275	22,243,795	
379,555	121,325	159,238	170,209	602,185	363,142	268,664	321,838	14
168,460	45,457	76,230	68,730	227,055	113,745	105,119	100,685	
13,059	6,370	5,374	1,968	132,924	86,466	52,376	70,803	15
21,171	11,386	7,716	2,442	320,933	192,770	145,267	119,185	
2,104,714	2,215,596	2,338,505	2,035,566	2,960,943	3,117,986	3,506,944	3,025,486	16
1,713,756	1,855,182	1,875,687	1,848,532	2,377,131	2,523,134	2,830,701	2,590,195	
–	–	272,828	250,427	–	–	734,185	705,249	17
–	–	272,714	221,709	–	–	654,774	586,872	
13,449,321	19,359,431	36,482,811	28,787,373	21,181,037	28,772,857	45,244,920	34,847,538	18
1,194,215	1,816,804	4,060,918	3,717,540	1,823,372	2,603,026	4,965,271	4,369,275	
1,176,618	768,899	779,467	127,727	1,919,069	1,335,961	1,165,790	546,560	19
124,038	91,898	73,669	14,965	241,968	191,514	180,803	115,204	
835,742	1,242,995	351,070	708,464	1,454,517	2,047,315	1,254,738	1,158,971	20
120,904	189,534	51,074	116,673	231,806	318,944	187,124	180,483	
6,054,279	6,379,586	6,503,672	10,155,121	10,247,761	11,537,422	13,467,440	17,114,597	21
747,978	724,908	771,286	711,221	1,506,491	1,578,627	1,840,278	1,820,857	
4,961,038	6,154,642	9,875,889	13,857,658	9,822,617	11,989,276	18,933,308	21,669,931	22
829,958	1,057,622	1,620,746	2,209,219	1,896,147	2,308,691	3,475,321	3,777,415	
16,576,070	15,888,547	14,599,442	12,219,743	42,342,297	35,917,801	33,511,827	28,481,288	23
3,371,284	3,021,281	2,698,846	2,152,525	9,636,932	7,942,071	6,814,141	5,640,783	
123,410	241,001	486,774	310,132	1,149,052	1,711,505	2,346,448	1,926,984	24
82,311	147,361	402,393	231,582	812,988	1,171,534	1,548,547	1,172,813	
24,120	36,840	8,721	12,198	188,473	209,749	142,307	172,988	25
407,286	345,915	352,707	351,806	2,242,515	2,064,045	1,331,008	1,433,069	26
543,089	494,107	397,788	305,895	599,927	561,441	619,434	592,453	27
893,943	764,650	524,958	404,112	1,004,727	871,870	730,514	686,141	
744,373	701,114	867,654	1,091,735	1,460,345	1,402,516	1,624,193	1,841,665	28
176,516	286,845	218,898	178,378	254,154	420,612	351,897	341,764	29
–	–	120,910	90,940	–	–	601,764	526,236	30
15,937	22,290	11,568	9,195	1,392,295	1,385,768	1,096,139	1,192,755	31
178,463	150,118	26,904	10,108	552,850	455,004	175,549	145,825	32
23,046	36,946	21,285	12,920	299,817	357,963	394,999	444,969	33
35,525,792	40,621,777	46,266,761	38,614,227	54,101,448	58,279,600	63,293,783	54,065,055	

13.—Principal Imports into Canada for Consumption from United

No.	Item.		United Kingdom. 1927.	1928.	1929.	1930.
	III. Fibres and Textiles—continued.					
	Flax, Hemp and Jute—					
1	Hemp, dressed or undressed	cwt.	–	–	–	–
		$	–	–	–	–
2	Other raw flax, etc	$	23,646	14,434	11,750	9,846
3	Rovings, yarns, etc., for weaving or for insulation	lb.	2,760,448	2,990,853	1,819,437	2,295,906
		$	338,107	321,251	334,943	449,539
4	Linen thread, for sewing	lb.	278,665	248,742	244,878	235,465
		$	391,898	325,935	311,534	268,228
5	Other yarn, thread, etc	$	91,389	118,346	305,816	287,599
6	Fabrics, flax, not bleached	yd.	2,890,357	3,326,228	2,176,796	2,108,894
		$	436,256	484,652	366,005	345,550
7	Fabrics, flax, printed, dyed or coloured	yd.	159,482	380,316	3,091,048	3,035,877
		$	68,376	120,125	575,529	544,440
8	Fabrics, flax, bleached or mercerized	yd.	504,082	475,371	523,244	790,684
		$	170,444	152,358	140,532	203,628
9	Fabrics, jute, woven	yd.	14,015,795	21,647,876	19,603,129	12,073,132
		$	1,550,596	2,056,560	2,153,714	1,341,508
10	Other fabrics	$	515,088	384,573	94,959	130,262
11	Bags	$	11,965	5,538	3,378	7,905
12	Handkerchiefs	$	379,349	449,307	531,192	621,620
13	Sheets, pillow-cases, etc	$	184,783	193,031	213,058	249,417
14	Table-cloths, napkins	$	1,061,271	1,115,950	835,313	901.631
15	Towels	$	446,058	439,520	212,882	207,215
	Totals, Flax, Hemp and Jute[1]	$	6,005,792	6,655,428	7,049,782	6,611,817
	Silk—					
16	Raw, singles, not degummed	lb.	550	367	665	113
		$	2,645	2,191	1,656	577
17	Other raw, yarns and thread	$	194,244	212,015	220,069	221,669
18	Fabrics, unfinished	yd.	–	–	5,390	2,216
		$	12,325	10,177	4,022	1,952
19	Velvets and plushes	yd.	701,951	650,586	311,190	149,729
		$	923,082	909,359	302,923	171,982
20	Ribbons	$	71,034	46,459	21,554	15,988
21	Fabrics, for neckties	$	28,811	28,571	41,607	13,263
22	Other piece goods	$	657,485	473,230	330,145	264,255
23	Socks and stockings	doz. pr.	4,735	4,219	8,210	5,573
		$	36,477	33,967	62,225	45,797
24	Other apparel	$	356,625	412,005	414,087	381,876
	Totals, Silk[1]	$	2,446,082	2,280,572	1,616,325	1,329,586
	Wool—					
25	Raw	lb.	6,145,684	6,758,498	5,508,463	4,936,229
		$	2,430,063	2,848,722	2,670,489	2,280,124
26	Worsted tops, n.o.p	lb.	6,694,809	6,686,377	7,473,977	5,536,787
		$	3,721,005	4,106,622	4,904,599	3,284,090
27	Noils	lb.	331,055	404,514	479,630	315,933
		$	140,110	188,665	233,142	141,239
28	Yarns	lb.	3,376,022	3,788,100	4,976,777	5,648,429
		$	3,838,389	4,109,668	5,566,261	5,665,639
29	Fabrics, to be finished	sq. yd.	3,171,858	2,402,955	2,826,983	1,839,067
		$	1,288,769	868,408	1,159,705	750,796
30	Lustres, Italian linings	yd.	1,853,489	1,096,880	782,154	535,873
		$	985,000	598,022	463,811	321,708
31	Overcoatings	yd.	249,470	293,149	383.331	995,152
		$	348,172	383,738	477,258	1,194,536
32	Tweeds	yd.	4,025,983	3,478,905	3,869,635	2,868,223
		$	3,757,034	3,286,378	3,634,985	2,642,895
33	Worsteds, serges, coatings	yd.	8,867,665	8,573,388	8,423,926	6,663,242
		$	11,755,726	10,927,901	11,235,198	8,794,919
34	Other piece goods	$	290,666	216,150	3,778,930	3,145,413
35	Carpets, in the roll	yd.	212,564	173,036	160,109	186,715
		$	299,699	293,212	270,926	304,681
36	Carpets, other	$	952,768	1,033,156	1,150,299	1,094.940
37	Socks and stockings	doz. pr.	561,157	534,134	535,347	526,969
		$	2,487,868	2,268,070	2,211,822	2,264,536
38	Underwear	$	344,280	333,430	437,757	323,791
39	Women's and children's outer garments	$	260,660	195,382	216,107	256,350
40	Other apparel	$	2,384,843	2,488,223	1,447,898	1,362,160

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
110,816	96,020	24,231	37,143	123,426	99,503	27,390	42,620	1
1,329,485	1,075,207	205,949	306,438	1,458,768	1,106,248	234,103	358,827	
164,986	149,443	157,077	171,650	241,847	172,580	168,026	183,976	2
623,914	757,529	944,402	538,369	3,603,468	3,956,563	2,834,112	2,883,627	3
120,104	129,696	148,899	81,586	513,191	497,747	507,839	544,568	
2,854	6,224	15,692	16,965	300,966	269,794	267,144	255,213	4
4,357	7,901	17,672	23;425	418,716	342,757	333,043	293,787	
12,077	25,799	36,764	38,890	156,183	184,794	406,810	384,112	5
116,734	76,699	8,074	6,571	3,050,674	3,542,825	2,300,252	2,257,401	6
11,867	9,799	1,966	1,838	456,095	520,354	390,498	367,680	
40,496	25,572	53,738	25,915	205,130	413,900	3,198,404	3,107,234	7
12,057	8,123	14,639	18,958	84,489	135,509	618,605	583,789	
3,857	16,815	1,993	6,887	532,093	506,347	564,404	845,163	8
642	2,968	464	4,206	179,318	161,045	157,329	229,827	
15,499,614	11,845,003	4,693,533	2,578,057	89,356,892	101,820,240	98,763,425	94,822,973	9
1,215,280	985,143	394,339	163,977	6,890,604	7,862,818	8,167,067	6,489,887	
1,208	3,806	54,921	65,260	522,219	406,100	289,095	244,532	10
294,210	210,623	206,962	209,457	410,363	278,678	254,816	283,219	11
754	1,886	8,819	10,313	412,701	502,491	665,305	768,522	12
6,273	4,688	5,785	2,011	300,331	357,709	230,352	262,008	13
20,139	8,509	5,474	4,191	1,172,535	1,313,057	877,127	929,660	14
2,353	7,688	17,581	5,410	488,203	502,415	237,830	219,033	15
3,316,038	2,751,807	1,865,221	2,082,129	14,254,814	15,132,946	15,743,014	14,716,510	
589,964	710,238	880,135	1,118,325	679,923	938,459	1,282,815	1,668,972	16
3,532,101	3,856,327	4,528,205	5,600,442	4,065,514	5,073,511	6,547,545	8,360,968	
117,366	144,279	117,956	155,046	358,180	394,054	350,971	404,056	17
–	–	45,723	25,314	–	–	6,868,185	5,959,107	18
795	1,983	45,854	25,425	3,382,115	3,930,869	3,965,131	3,344,438	
36,276	21,522	46,033	45,999	1,312,029	1,319,765	1,474,676	1,123,210	19
45,453	36,929	102,603	119,940	1,627,795	1,671,209	1,866,417	1,597,328	
255,105	181,324	127,085	130,991	1,373,312	929,682	444,256	423,359	20
671,800	371,038	319,228	242,439	1,140,228	1,457,639	1,582,080	1,508,661	21
1,807,921	1,755,516	2,074,139	1,915,021	13,452,946	11,591,891	8,757,796	6,219,672	22
68,537	69,298	69,288	60,101	79,241	79,145	80,923	70,197	23
616,816	537,043	581,374	495,021	706,340	621,120	683,359	582,469	
1,056,523	1,400,158	2,430,372	2,808,129	3,130,677	3,377,911	4,353,102	4,491,780	24
8,297,660	8,603,718	10,700,312	11,922,663	30,077,476	29,963,007	29,615,120	27,967,557	
5,473,300	2,757,188	4,204,026	2,517,415	16,423,421	13,895,679	14,021,917	10,334,255	25
1,781,169	885,731	1,503,316	947,382	5,655,760	5,128,433	5,790,470	4,306,945	
271,646	580,090	218,772	15,192	7,527,553	7,688,373	8,128,303	5,948,454	26
144,319	298,470	153,426	10,427	4,410,063	4,831,288	5,514,743	3,671,941	
28,879	35,667	38,505	20,977	359,934	444,747	518,695	345,409	27
15,898	20,633	26,296	6,620	156,008	211,081	259,844	151,513	
22,837	23,335	3,804	79,483	3,581,337	3,974,053	5,111,837	5,877,804	28
28,543	31,145	3,938	77,242	4,118,119	4,356,235	5,733,444	5,870,353	
–	–	–	–	5,231,485	4,163,148	4,436,056	3,079,311	29
–	–	–	–	2,225,133	1,566,806	1,850,516	1,218,988	
10,248	4,072	5,121	1,765	1,885,359	1,103,599	788,388	541,940	30
9,990	5,935	2,070	1,411	1,005,499	605,360	466,539	325,460	
170	371	1,406	7,728	266,184	316,227	410,469	1,327,651	31
218	613	1,843	12,317	395,464	435,256	541,625	1,624,321	
8,424	17,660	24,003	25,892	4,218,552	3,812,941	4,244,478	3,126,691	32
15,519	24,833	32,074	41,038	4,029,996	3,772,336	4,125,980	2,953,519	
84,914	38,144	39,373	46,374	10,797,625	10,712,927	10,325,958	8,314,658	33
142,362	71,062	59,841	88,945	14,140,784	13,437,564	13,727,659	10,908,771	
27,476	26,931	446,060	386,313	396,772	379,975	5,984,851	5,210,909	34
6,888	5,444	11,895	33,131	235,022	216,377	216,345	271,733	35
7,722	9,213	9,971	23,653	329,036	357,623	342,290	390,305	
147,565	178,701	304,981	251,269	1,852,138	2,448,769	2,961,891	2,854,554	36
18,734	15,443	14,455	12,357	584,796	553,090	553,682	549,323	37
75,996	51,254	40,688	39,030	2,598,324	2,345,285	2,277,729	2,359,794	
8,178	10,901	13,173	9,824	363,076	362,688	462,729	347,278	38
240,909	185,979	261,225	298,222	626,645	523,986	591,626	644,101	39
239,268	343,206	295,624	261,220	2,839,095	3,125,046	1,862,407	1,715,341	40

13.—Principal Imports into Canada for Consumption from United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	III. Fibres and Textiles—concluded.					
	Wool—concluded.					
1	Blankets	pair	127,238	159,036	180,430	159,673
		$	578,157	750,225	827,281	816,548
2	Felt, pressed	lb.	297,584	104,353	76,580	60,991
		$	202,690	37,933	31,015	38,724
	Totals, Wool[1]	$	39,140,301	37,364,117	41,115,840	35,040,366
	Artificial Silk (rayon)—					
3	Rovings, yarns, warps, etc	lb.	156,630	55,190	53,955	67.662
		$	259,124	83,899	72,856	67,367
4	Woven fabrics, except ribbons	yd.	–	–	8,432,190	9,887,111
		$	2,319,847	3,425,072	4,697,763	4,821,398
5	Socks and stockings	doz. pr.	8,325	11,729	73,328	74,264
		$	54,617	58,782	360,829	341,882
	Totals, Artificial Silk[1]	$	2,714,228	3,647,459	5,301,509	5,396,552
	Other Fibres—					
6	Mexican istle, or tampico	cwt.	570	196	45	519
		$	9.015	2,268	841	7,518
7	Manila and sisal	cwt.	7,730	6,057	4,712	–
		$	79.285	48,791	37,919	–
8	Binder twine	cwt.	2,060	4,549	29,022	25,360
		$	29,768	55,633	325,336	343,108
	Totals, Other Fibres[1]	$	189,692	179,268	453,753	493,112
	Mixed Textile Products—					
9	Rags, wastes, etc	$	365,685	286,933	480,499	440,901
10	Fishing lines, nets, ropes, etc	$	1,329,897	1,347,762	1,086.777	1,273,651
11	Twine and cordage, n.o.p	lb.	–	–	756,980	2,025,964
		$	351,109	350,763	281,066	293,009
12	Artificial leather	$	781	685	611	841
13	Cotton fabrics, coated, rubberized, etc	$	308,898	419,058	552,911	386,295
14	Oilcloths, all kinds	sq. yd	659,562	693,108	673.065	619,052
		$	530,710	517,801	487,482	467,798
15	Embroideries, lace, etc., n.o.p	$	–	–	720,398	684,404
16	Garments, knitted, n.o.p. (incl. underwear)	$	490,929	474,822	1,028,779	1,136,427
17	Gloves and mitts, fabric	$	549,812	588,921	513,683	422,134
18	Hat shapes, crowns, etc	$	153,270	244,556	273,867	274,899
19	Hats, felt	$	630,927	725,291	740,787	616,434
20	Hats, caps, etc., n.o.p	$	758,799	713,914	506,186	289,872
21	Braids, etc., for hats	$	27,091	11,369	4,386	7,978
22	Surgical dressings, etc	$	103,799	151,124	156,036	232,461
	Totals, Mixed Textiles[1]	$	7,122,591	7,545,990	7,866,964	7,529,077
	Totals, Fibres and Textiles[1]	$	**72,752,164**	**71,464,176**	**77,021,060**	**68,243,821**
	IV. Wood, Wood Products and Paper.					
23	Wood, Unmanufactured or Partially Manufactured Railroad Ties	No.	–	–	–	–
		$	–	–	–	–
	Sawmill Products—					
	Lumber, dressed on one side—					
24	Cherry, chestnut, and hickory	M ft.	–	–	–	–
		$	–	–	–	–
25	Gumwood	M ft.	2	4	–	–
		$	208	486	–	–
26	Oak	M ft.	–	–	–	10
		$	–	–	–	5,183
27	Pitch pine	M ft.	–	–	2	–
		$	–	–	418	–
28	Whitewood	M ft.	–	19	–	–
		$	–	8,000	–	–
29	Lumber, dressed on one side and edges	M ft.	12	–	2	7
		$	850	–	279	2,787
30	Veneers	$	1,484	2,874	3,377	6,729
	Totals, Wood, Unmfrd. or Partially Mfrd.[1]	$	16,617	34.686	19,993	49,410

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
11,401	11,082	27,298	47,848	143,359	172,651	228,487	251,370	1
39,099	43,389	66,239	136,538	631,154	800,390	925,462	1,015,465	
220,065	174,023	168,475	722,437	816,278	483,950	504,900	1,071,691	2
97,425	75,715	77,625	136,289	461,018	240,665	262,561	360,820	
3,389,549	2,676,191	3,601,113	3,021,193	50,575,573	48,832,356	54,428,616	46,644,026	
108,028	138,588	63,878	54,904	1,516,448	1,563,020	2,240,704	2,132,362	3
222,067	350,587	87,392	80,144	1,850,385	1,733,546	2,153,747	1,678,450	
–	–	3,598,442	4,416,435	–	–	15,313,240	20,049,045	4
468,696	605,767	1,413,483	1,750,850	3,994,077	5,518,223	7,850,519	9,466,146	
19,412	46,905	297,054	373,728	30,002	61,978	387,545	517,008	5
57,299	113,577	635,780	745,233	127,106	193,342	1,044,052	1,249,267	
946,234	1,212,244	2,382,566	2,907,535	6,301,986	7,860,718	11,876,363	13,418,910	
1,958	4,216	24,667	3,872	3,267	5,417	25,105	4,790	6
33,479	44,733	184,615	54,298	53,610	62,881	193,274	67,096	
440,105	479,920	709,587	453,678	519,807	524,124	745,831	459,588	7
4,225,868	3,829,485	5,452,967	3,773,122	5,030,900	4,255,080	5,766,251	3,822,613	
180,610	69,119	138,233	21,895	282,814	194,647	279,654	182,258	8
2,654,850	866,162	1,566,442	266,336	4,076,338	2,294,516	2,912,755	1,845,305	
7,116,163	5,005,464	7,581,919	4,372,057	9,718,768	7,310,586	9,795,697	6,761,901	
1,473,260	1,036,028	1,894,810	2,015,572	1,509,213	1,542,011	2,782,320	2,899,252	9
1,348,096	1,185,898	1,062,204	1,173,004	2,860,406	2,739,453	2,294,969	2,604,125	10
–	–	451,458	983,352	–	–	2,441,706	3,283,441	11
150,057	118,438	118,526	269,423	515,108	490,508	432,198	596,580	
168,679	191,603	414,555	233,081	170,008	192,404	415,934	234,243	12
928,957	993,852	1,689,554	1,367,232	1,258,089	1,422,259	2,271,441	1,771,818	13
729,672	792,420	893,425	1,315,661	1,389,943	1,487,944	1,567,975	1,944,403	14
248,638	271,531	400,752	442,561	779,848	790,516	889,392	915,534	
–	–	183,148	184,753	–	–	1,404,508	1,769,757	15
163,429	182,948	168,370	192,831	932,404	864,051	1,498,731	1,708,340	16
83,830	113,363	85,376	89,439	1,401,375	1,587,136	1,620,414	1,450,955	17
18,976	14,068	25,163	30,570	227,845	386,600	488,424	650,390	18
323,922	351,741	456,649	300,134	1,389,024	1,581,944	1,748,786	1,527,205	19
778,453	595,093	633,881	636,039	1,780,061	1,633,078	1,481,018	1,381,135	20
228,849	126,814	186,657	211,281	584,079	283,591	460,966	550,136	21
553,855	703,938	464,313	317,301	671,250	863,380	634,283	566,492	22
8,334,081	8,559,320	9,491,895	9,077,793	18,553,686	19,616,601	21,686,580	21,667,293	
66,925,517	**69,430,521**	**81,889,787**	**71,997,597**	**183,583,931**	**186,994,462**	**206,439,173**	**185,241,252**	
435,706	691,801	888,732	777,750	435,706	691,801	888,738	777,750	23
453,122	740,838	869,379	797,750	453,122	740,838	869,388	797,750	
6,691	9,012	8,914	8,090	6,691	9,012	8,914	8,090	24
404,556	556,610	508,203	439,282	404,556	556,610	508,203	439,282	
20,319	17,143	22,416	21,082	20,372	17,274	22,499	21,156	25
1,047,827	861,127	942,458	961,218	1,052,767	875,174	951,237	968,525	
42,336	45,912	45,996	40,699	42,339	45,913	46,098	40,800	26
2,896,503	2,943,199	2,791,033	2,685,170	2,896,885	2,943,375	2,802,491	2,701,062	
33,502	31,728	41,480	32,212	33,502	31,728	41,482	32,212	27
1,273,097	1,077,036	1,318,488	1,111,394	1,273,119	1,077,036	1,318,906	1,111,394	
7,718	8,593	11,564	12,919	7,718	8,612	11,564	12,919	28
420,694	421,434	585,067	651,513	420,694	429,434	585,067	651,513	
7,176	7,363	18,498	13,243	7,216	7,391	18,554	13,316	29
345,147	368,013	686,107	589,915	346,680	368,876	687,691	594,528	
768,105	781,724	993,600	1,166,542	769,713	784,598	997,463	1,212,631	30
12,852,320	13,908,825	16,245,433	14,833,901	13,087,938	14,269,634	16,639,349	15,348,150	

13.—Principal Imports into Canada for Consumption from United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	IV. Wood. Wood Products and Paper—concl.					
	Wood, Manufactured—					
1	Barrels, empty	No.	2,799	6,492	9,614	1,981
		$	24,813	46,641	103,552	23,279
2	Staves, of oak	M	–	–	–	–
		$	–	–	–	–
3	Other cooperage	$	194	142	184	–
4	Corks	lb.	65,842	52,499	69,597	30,904
		$	69,513	52,511	48,396	22,793
5	Other cork mfrs	$	6,142	7,903	3,736	4,129
6	Turned and carved wood	$	21,026	19,807	18,837	15,650
7	Wood-pulp	cwt.	–	3	–	–
		$	–	16	–	–
8	Doors	$	–	–	919	534
9	Fibre, kartavert, and manufactures of	$	1,253	3,991	4,499	1,414
10	Furniture	$	250,435	388,540	544,649	627,691
	Totals, Wood, Manufactured[1]	$	548,776	691,626	933,229	931,457
	Totals, Wood and Wood Products[1]	$	565,393	726,312	953,222	980,867
	Paper—					
11	Chipboard, not pasted	lb.	–	–	–	–
		$	–	–	–	–
12	Newsboard	lb.	82,178	59,193	115,230	103,584
		$	6,041	5,038	9,921	8,271
13	Strawboard	lb.	73,673	25,711	560	21,088
		$	1,560	751	18	546
14	Other paper boards	$	35,731	24,971	40,400	21,324
15	Book grades of paper	lb.	656,065	394,487	51,179	23,887
		$	45,883	26,705	3,845	1,929
16	Book and printing paper, not coated, n.o.p.	lb.	1,168,414	1,709,271	2,213,659	2,518,513
		$	102,154	155,944	188,881	213,895
17	Printing paper, n.o.p	lb.	312,163	445,153	349,869	683,097
		$	34,540	46,332	33,664	91,434
18	Wrapping paper	lb.	313,801	236,588	302,675	322,789
		$	26,918	21,462	28,489	30,185
19	Writing paper and stationery, n.o.p.	$	133,609	115,215	98,738	114,114
20	Envelopes	M	9,223	6,572	6,676	8,077
		$	27,759	25,138	24,691	23,099
21	Wall paper	roll	525,780	580,461	554,641	543,340
		$	101,801	129,730	136,750	130,884
22	Paper boxes and containers	$	20,916	19,773	22,233	37,795
	Totals, Paper[1]	$	1,360,544	1,451,826	1,532,436	1,665,590
	Books and Printed Matter—					
23	Newspapers and magazines	$	9,942	11,591	23,709	49,604
24	Photographs, chromos, engravings, prints.	$	141,276	140,044	154,308	155,351
25	Advertising pamphlets, cards, etc	lb.	321,321	269,900	339,736	411,674
		$	145,393	104,656	117,858	166,677
26	Advertising bills, folders and posters	lb.	9,229	12,036	6,194	6,497
		$	5,984	7,538	4,317	2,344
27	Labels, tags, tickets, etc	$	61,036	61,180	67,923	63,490
28	Bibles, hymn books, etc	$	189,834	193,124	173,131	158,291
29	Text books	$	473,528	512,489	599,607	529,701
	Totals, Books and Printed Matter[1]	$	1,992,161	2,182,210	2,449,371	2,604,245
	Totals, Wood, Wood Products and Paper[1]	$	**3,918,098**	**4,360,348**	**4,935,029**	**5,250,702**
	V. Iron and Its Products.					
30	Iron ore	ton	–	–	7	–
		$	–	–	448	–
	Pigs, ingots, blooms and billets—					
31	Pig iron	ton	5,275	6,455	6,499	7,872
		$	89,560	118,356	106,599	138,774
32	Ferro-silicon and ferro-manganese	cwt.	42,857	63,626	42,888	111,140
		$	135,454	209,455	142,717	345,140
	Totals, Pigs, Ingots, Blooms and Billets[1]	$	240,252	364,041	296,072	533,734
33	Scrap iron or steel	ton	–	–	–	66
		$	–	–	37	250

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
214,731	179,788	179,828	133,034	221,763	189,305	193,150	137,734	1
368,056	345,035	372,808	179,594	404,522	400,936	486,835	210,549	
5,929	9,945	9,029	9,201	5,929	9,950	9,029	9,201	2
395,998	886,258	848,578	922,036	395,998	886,338	848,578	922,036	
220,536	268,811	329,967	406,325	237,015	269,102	330,405	406,425	3
62,166	82,516	109,396	134,349	423,516	485,568	487,849	411,540	4
52,205	69,544	113,477	125,979	263,033	317,722	362,602	298,564	
276,768	380,362	449,234	445,683	519,843	714,046	823,641	882,194	5
898,774	697,228	749,828	612,927	924,394	725,621	776,047	636,767	6
464,433	477,941	439,980	386,833	464,455	479,099	439,980	386,833	7
1,257,578	1,227,305	1,085,817	1,000,863	1,257,635	1,230,161	1,085,817	1,000,863	
391,354	546,069	585,676	595,179	391,354	546,069	586,595	595,766	8
370,750	327,568	329,439	320,485	374,502	335,509	337,542	325,691	9
1,476,208	1,656,660	2,298,240	3,171,620	1,957,739	2,271,777	3,228,217	4,157,460	10
8,333,935	8,960,581	10,258,234	10,590,087	9,773,756	10,730,795	12,386,421	12,707,244	
21,186,255	22,869,406	26,503,667	25,423,988	22,861,694	25,000,429	29,025,770	28,055,394	
4,287,503	1,725,340	10,602,203	8,283,864	4,287,503	1,725,340	10,602,203	8,294,364	11
123,873	53,248	223,496	160,727	123,873	53,248	223,496	161,092	
7,394,849	10,303,114	11,123,653	16,300,040	7,484,656	10,410,855	11,256,147	16,616,533	12
356,398	457,437	494,628	635,457	362,911	464,731	505,405	652,535	
19,026,112	15,625,774	8,807,912	7,857,337	19,209,496	17,101,236	10,319,775	9,794,235	13
499,156	403,947	226,466	201,920	502,695	431,601	257,916	233,333	
584,858	493,510	790,366	830,912	624,031	522,404	833,500	856,820	14
1,756	1,349,531	5,922,567	6,346,282	657,821	1,744,018	5,973,746	6,370,169	15
347	72,641	313,888	332,173	46,230	99,346	317,733	334,102	
4,685,063	4,922,973	5,110,149	6,274,952	5,946,686	6,776,394	7,423,806	8,887,899	16
339,824	364,550	368,223	573,617	449,594	532,469	567,625	795,531	
819,523	941,429	1,034,701	4,128,711	1,226,425	1,499,132	1,489,560	5,497,664	17
89,114	101,364	119,910	660,451	137,043	159,150	166,670	815,733	
6,681,919	12,531,582	6,562,688	6,332,143	9,641,227	14,972,124	9,342,093	8,878,158	18
325,429	473,811	396,771	400,384	491,834	614,436	566,943	553,700	
230,774	220,622	220,994	264,110	419,576	385,957	363,789	423,384	19
51,289	48,185	51,662	59,458	63.748	59,895	63,936	73,135	20
107,844	113,970	131,918	142,385	145,527	148,891	167,329	181,530	
2,338,853	3,437,066	3,426,653	2,419,010	2,919,378	4,160,417	4,170,399	3,176,029	21
358,195	439,312	432,074	324,728	481,035	601,127	611,806	517,658	
1,101,045	1,203,562	1,330,104	1,304,404	1,145,757	1,261,325	1,393,255	1,401,527	22
8,821,928	9,167,711	10,678,222	11,592,086	11,359,582	11,918,454	13,649,415	14,764,904	
3,252,607	2,970,786	2,827,261	4,140,690	3,266,974	2,989,406	2,860,056	4,197,860	23
1,297,058	1,064,548	1,165,732	1,172,630	1,542,937	1,322,302	1,467,556	1,500,949	24
5,034,802	5,598,118	6,347,786	7,094,787	5,409,408	5,935,204	6,778,757	7,643,516	25
2,094,444	2,594,827	3,170,259	2,863,239	2,259,953	2,723,885	3,322,241	3,080,064	
411,312	324,966	292,212	266,761	420,687	337,002	298,630	286,331	26
185,341	146,431	129,700	119,661	191,352	153,789	134,108	123,905	
300,214	264,508	270,679	272,341	381,497	339,074	359,036	352,399	27
174,880	169,674	161,217	162,835	511,468	509,547	461,917	461,720	28
560,152	588,116	627,253	719,244	1,100,308	1,198,371	1,329,989	1,352,744	29
11,114,209	11,955,111	13,382,405	14,720,169	13,741,022	14,832,041	16,539,633	18,130,779	
41,122,392	**43,992,228**	**50,564,294**	**51,736,243**	**47,962,298**	**51,750,924**	**59,214,818**	**60,951,077**	
984,173	1,010,223	1,565,042	1,639,700	1,445,504	1,491,234	2,272,130	2,456,919	30
2,242,208	2,227,040	3,425,168	3,995,917	2,835,159	2,889,768	4,391,269	5,020,921	
26,324	39,949	38,514	22,573	34,569	48,415	46,425	31,618	31
496,458	658,589	632,028	395,087	623,182	809,872	757,660	552,984	
6,089	12,133	14,318	24,606	58,217	80,598	129,568	190,648	32
139,674	117,942	117,968	96,308	333,440	367,682	483,876	629,056	
1,081,746	1,363,959	2,263,792	1,747,337	1,634,048	2,051,739	3,143,014	2,716,924	
–	117,350	138,752	134,291	85,498	120,809	141,915	136,322	33
906,180	1,418,993	1,547,549	1,485,932	926,361	1,440,575	1,571,233	1,501,754	

13.—Principal Imports into Canada for Consumption from United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	V. Iron and Its Products—continued.					
	Castings and Forgings—					
1	Axles, parts and blanks	$	8,528	5,758	7,924	3,903
2	Wheel tires, locomotive and car	cwt.	63,698	115,051	86,320	90,742
		$	297,400	539,358	415,441	440,289
	Totals, Castings and Forgings[1]	$	333,232	596,665	456,804	496,090
	Rolling-mill Products—					
3	Band and hoop	cwt.	141,586	146,918	37,913	108,894
		$	451,710	473,286	150,995	366,729
	Bars and Rails—					
4	Railway rails	ton	6	18	41	346
		$	272	737	1,720	9,614
5	Other bars and rails	cwt.	116,159	143,540	147,743	148,909
		$	825,243	874,461	1,020,642	1,040,652
	Plates and Sheets—					
6	Boiler plate	cwt.	587	46	1,361	2,277
		$	1,077	93	2,709	4,512
7	Canada plates	cwt.	66,886	87,743	100,577	53,800
		$	255,491	337,057	353,452	196,039
8	Tinned plates	cwt.	367,546	478,286	525,686	528,618
		$	1,850,503	2,340,105	2,415,503	2,445,624
9	Plates, not less than 30 in. by ¼ in., n.o.p.	cwt.	6,674	25,407	120,684	274,848
		$	10,652	42,792	241,390	477,975
10	Sheets, No. 14 gauge and thinner, n.o.p.	cwt.	77,168	124,800	146,755	210,626
		$	251,673	401,423	421,550	643,649
11	Galvanized sheets	cwt.	153,189	88,347	230,774	261,677
		$	650,507	363,357	864,285	952,852
12	Skelp for pipe	cwt.	4,373	112,604	196,846	150,862
		$	15,324	296,698	496,690	381,370
13	Other plates and sheets	cwt.	14,036	21,783	196,554	193,259
		$	31,464	46,537	488,815	469,690
14	Rods	cwt.	–	13,054	11,151	2,209
		$	–	16,316	14,343	3,346
15	Structural iron	$	44,368	136,608	264,846	824,746
	Totals, Rolling-mill Products[1]	$	4,388,284	5,329,470	6,736,940	7,816,798
	Tubes, Pipe and Fittings—					
16	Boiler tubes	$	18,093	34,255	55,198	32,360
17	Cast iron pipe	ton	1,348	1,048	370	978
		$	59,540	32,840	17,537	38,373
18	Seamless tubing, not less than 3½c. per lb.	cwt.	10,753	31,020	26,671	18,529
		$	98,895	175,914	191,045	161,859
	Totals, Tubes, Pipe and Fittings[1]	$	419,547	427,137	534,580	475,249
	Wire—					
19	Barbed fencing	cwt.	366	4,792	581	260
		$	869	14,069	1,887	817
20	Galvanized wire, No. 9, 12 and 13 gauge, not telegraph nor telephone	cwt.	108	531	627	3,394
		$	389	1,457	3,520	19,256
21	Steel wire for rope	cwt.	79,402	99,791	135,458	166,421
		$	483,078	636,730	826,374	1,056,126
22	Wire rope, twisted wire, clothes lines, wire cable, etc., n.o.p.	$	235,836	229,147	255,189	303,355
	Totals, Wire[1]	$	999,755	1,170,106	1,487,676	1,857,541
23	Chains	$	221,570	178,057	220,023	239,805
	Engines and Boilers—					
24	Engines, automobile	No.	–	–	–	1
		$	–	–	–	1,206
25	Engines, internal combustion, other	No.	408	845	1,085	755
		$	192,861	370,261	502,101	423,922
26	Locomotives and parts[1]	No.	11	–	–	2
		$	301,926	–	–	36,172
	Totals, Engines and Boilers[1]	$	774,781	964,896	1,118,507	1,235,961

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
2,629,340	1,823,134	1,541,635	1,025,706	2,638,166	1,828,892	1,549,559	1,029,609	1
122,604	107,866	122,185	118,698	186,598	223,077	208,505	299,440	2
523,705	460,144	524,850	502,913	822,394	1,000,301	940,291	943,202	
4,417,940	3,694,158	6,402,306	3,998,939	4,764,733	4,296,176	6,867,521	4,497,406	
1,292,720	1,156,382	1,284,895	1,113,571	1,489,801	1,351,442	1,388,110	1,304,352	3
4,565,760	3,878,142	4,338,728	4,073,654	5,177,767	4,614,506	4,677,408	4,698,834	
26,024	22,428	31,130	22,313	27,875	24,637	33,858	25,279	4
840,141	697,221	989,909	781,101	890,692	746,843	1,054,406	852,718	
2,123,111	1,850,168	3,287,886	2,307,180	2,753,478	2,409,185	3,930,977	3,055,374	5
5,768,681	4,948,815	8,410,381	6,028,346	7,458,132	6,451,466	10,223,968	8,069,852	
179,733	165,159	239,390	226,186	189,538	173,761	241,463	229,106	6
431,987	374,283	594,653	557,880	451,407	388,031	601,061	563,933	
123,012	181,094	105,203	49,929	188,990	268,837	207,871	103,729	7
514,992	699,908	412,123	196,926	770,871	1,036,965	770,457	392,965	
1,065,092	861,342	1,093,246	1,012,559	1,432,558	1,339,650	1,618,969	1,541,177	8
5,781,061	4,627,284	5,592,924	5,258,093	7,631,628	6,967,616	8,008,574	7,703,717	
964,303	1,047,763	1,419,257	1,447,510	1,083,996	1,172,395	1,749,913	1,987,492	9
1,931,217	2,051,128	2,771,393	2,822,544	2,100,039	2,234,459	3,335,877	3,724,845	
1,112,163	937,323	1,466,090	1,301,158	1,234,433	1,112,509	1,640,672	1,552,287	10
4,129,581	3,391,451	5,086,015	4,765,475	4,479,610	3,898,284	5,566,984	5,489,780	
388,102	368,447	450,669	454,008	546,759	457,015	682,133	719,962	11
1,693,655	1,495,582	1,700,423	1,754,456	2,358,816	1,859,829	2,566,409	2,717,619	
2,205,717	2,258,795	2,873,827	3,248,716	2,232,369	2,379,885	3,172,428	3,400,660	12
4,468,373	4,190,092	5,229,156	5,967,542	4,515,179	4,497,398	5.859,725	6,350,654	
683,651	607,738	1,384,505	1,629,432	792,280	713,728	1,690,018	2,011,912	13
1,601,316	1,346,437	3,294,685	4,033,038	1,777,889	1,517,967	3,956,739	4,812,353	
201,820	164,951	296,690	502,383	955,824	863,336	1,096,776	1,040.878	14
428,641	333,035	572,292	955,506	1,409,732	1,197,762	1,634,302	1,727,773	
7,317,290	8,193,596	10,819,130	13,004,728	7,671,300	8,656,310	11,828,234	14,789,071	15
39,472,695	36,226,884	49,811,812	50,199,289	46,693,062	44,067,436	60,084,144	61,894,114	
814,872	810,066	935,352	1,083,311	934,630	917,547	1,092,018	1,229,700	16
1,062	967	1,601	2,438	5,281	6,146	5,672	5,894	17
79,903	77,556	90,316	120,092	247,948	238,222	201,527	220,761	
45,807	33,415	64,189	63,415	57,854	68,371	96,655	93,911	18
285,928	222,017	478,871	458,160	390,368	424,668	700,297	671,921	
3,178,766	3,051,862	3,884,483	5,191,177	3,841,908	3,738,548	4,697,279	5,948,162	
106,571	82,530	68,208	64,642	136,140	120,517	113,229	98,721	19
386,456	273,322	224,285	201,744	476,982	383,061	353,585	316,154	
198,960	234,864	209,784	88,030	242,379	249,009	212,350	92,699	20
530,853	615,002	537,023	217,720	613,240	653,029	545,541	240,546	
13,124	6,153	19,687	12,326	92,594	105,944	155,145	178,973	21
93,832	39,098	128,258	76,792	577,375	675,828	954,632	1,135,749	
75,056	84,762	134,478	121,394	317,880	325,677	407,078	466,309	22
1,857,895	1,825,247	1,997,228	1,484,523	3,160,849	3,317,776	3,806,253	3,658,798	
728,518	567,022	752,418	613,428	986,740	799,177	1,030,694	885,155	23
90,050	109,014	118,817	69,505	90,050	109,014	118,817	69,508	24
10,609,398	11,957,526	11,727,816	7,317,791	10,609,398	11,957,526	11,727,816	7,319,237	
13,995	13,232	15,497	12,746	14,428	14,104	16,642	13,537	25
1,339,646	1,506,913	1,840,631	1,787,848	1,565,449	1,979,767	2,469,546	2,256,210	
44	90	121	78	55	90	121	80	26
304,172	558,874	1,151,286	487,112	606,098	558,874	1,151,286	523,284	
14,073,189	15,928,076	18,033,362	13,845,194	14,922,187	17,006,829	19,307,250	15,146,437	

13.—Principal Imports into Canada for Consumption from United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	V. Iron and Its Products—continued.					
	Farm Implements and Machinery—					
1	Cream separators	No.	235	–	521	–
		$	7,218	17	11,862	–
2	Other dairy machinery	$	1,530	345	739	8,786
3	Harvesters	No.	–	–	–	–
		$	–	182	–	–
4	Other harvesting implements	$	9,663	10,342	13,736	7,813
	Planting and Tillage—					
5	Drills and parts	No.	1	1	2	–
		$	444	5,150	267	1,010
6	Ploughs and parts	$	708	163	93	176
7	Other planting	$	3,265	4,968	4,015	4,285
	Seed Separation—					
8	Threshing machine separators	No.	–	–	–	–
		$	–	–	–	–
9	Threshing machine separator parts	$	1,814	–	1,163	–
10	Traction engines, for farm purposes, not over $1,400 cash	No.	–	–	–	12
		$	–	–	–	9,508
11	Other farm tractors, parts and repairs	$	1,178	37	372	65,614
	Totals, Farm Implements and Machinery	$	134,458	197,660	141,766	168,502
	Hardware and Cutlery—					
12	Cutlery	$	714,914	694,000	741,932	675,529
	Hardware—					
13	Nails, spikes, tacks, etc	$	15.309	13,654	6,611	11,923
14	Needles and pins	$	212,714	176,199	205,807	217,158
15	Nuts and bolts	cwt.	1,180	2,271	4.752	3,980
		$	7,412	11,433	22,353	19,338
16	Screws	$	1,520	1,539	1,329	1,490
	Totals, Hardware and Cutlery[1]	$	1,068,091	1,001,533	1,133,003	1,116,982
	Machinery (except Agricultural)—					
17	Sewing machines	No.	5,964	6,165	11,980	8,335
		$	115,283	134,493	209,489	134,435
18	Sewing machine parts and attachments	$	243,779	155,017	249,397	280,503
19	Washing machines, domestic	No.	1	1	1	7
		$	398	57	384	8,628
20	Other household machinery	$	370	315	2,286	24
21	Diamond drills and parts	$	58.176	68	12,449	29,657
22	Ore crushers, stamp mills, etc	$	274,128	252,928	193,015	338,597
23	Rock drills	No.	11	11	36	88
		$	7,746	20,871	12,703	88,612
24	Well drilling machinery and equipment	$	912	416	2,280	23,191
25	Other mining and metallurgical machinery	$	39,208	112,685	109,324	146,318
	Office or Business—					
26	Adding machines	No.	–	4	3	–
		$	12	237	104	–
27	Typewriters	No.	9	18	19	195
		$	363	1,387	1,171	11,302
28	Other office or business	$	7,825	3,662	4,873	417
	Printing and Bookbinding—					
29	Printing presses	$	65,182	119,432	139,945	218,783
30	Typesetting machines	$	37	615	15,294	1,107
31	Other printing and bookbinding	$	39,883	64,799	53,582	51,291
32	Air compressors	$	64,677	57,659	114,849	149,071
33	Coke and gas machinery	$	68,017	68,214	291,149	254,564
34	Cranes and derricks	No.	10	15	4	23
		$	11,376	95,703	37,733	56,949
35	Logging equipment	$	361,414	259,859	83,031	28,367
36	Metal-working machines, n.o.p	$	119,736	63,272	119,831	187,419
37	Paper- and pulp-mill machinery	$	820,836	1,101,423	343,642	39,892
38	Pumps, power, and parts	No	71	89	87	154
		$	70,377	73,288	66,640	99,192
39	Rolling-mill machines	$	1,012	4,122	905	5,108
40	Shovels, steam and electric	No.	–	1	3	1
		$	–	8,028	46,510	6,808
41	Textile machinery	$	641,419	1,301,995	753,498	911,294
	Totals, Machinery (except Agricultural)[1]	$	4,335,185	5,103,644	3,996,722	4,556,727

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930 -continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
13,892	7,676	10,112	11,238	23,658	16,910	19,451	22.010	1
729,263	357,270	586,484	681,530	997,548	611,245	853,495	955,182	
106,641	142,511	216,238	248,385	109,427	144,654	219,659	259,113	2
3.949	5,611	7,566	5.155	3,949	5.612	7,567	5,155	3
998,771	1,371,979	1,993,528	5,031,997	998,771	1,372,578	1,998,914	5,032,950	
377,260	426,369	497,186	423,413	408,662	455,930	535,412	464,648	4
6,047	6,156	6,926	4,616	6,048	6.157	6.968	4,616	5
835,930	865,690	993.564	709.572	836,374	870,840	997,168	710,582	
1,648,462	1,731,330	2,151,498	2,211,835	1,649,303	1,731,738	2,158,059	2,229,851	6
621,063	785,298	1,091,071	1,051,284	647,613	803,146	1,112,015	1,070,803	7
2,897	4,825	7,323	1,970	2,897	4.825	7,323	1,970	8
2.482,574	4,354,182	7,884,772	2,137,415	2,482,574	4,354,182	7,884,772	2,137,415	
703,919	769,905	1,220,041	473,641	705,806	769,905	1,221,204	475,084	9
9,101	18,469	21,777	14,979	9,101	18,471	21,777	15,276	10
6,847,239	14,890,800	18,931,613	12,395,796	6,847,239	14,893,586	18,931,613	12,573,398	
1,709,203	1,925,731	2,648,639	2,645,478	1,710,381	1,925,768	2,649,021	2,744,403	11
18,493,857	29,132,852	39,826,254	29,338,753	18,946,288	29,636,449	40,292,899	30,075,453	
351,824	388,511	404,998	425,342	1,585,382	1,625,122	1,704,873	1,644,128	12
67,662	41,028	41.802	87,095	152,226	99,003	89,723	125,934	13
170,704	217,394	229.993	246,309	413,699	437,946	471,462	515,181	14
32,234	29,509	46,284	47,529	33,509	31,886	51,261	52,476	15
339,547	325,186	570,120	520.624	347,385	337,750	593,877	543,517	
114,713	133,111	175,133	226,571	116,972	142,546	183,144	241,199	16
2,118,253	2,339,172	2,869,146	3,067,518	3,874,736	4,097,572	4,774,857	4,950,119	
11,110	13,690	12,764	13,843	17,121	19,929	24,805	22,361	17
436,319	454,129	522,039	544,468	555,052	593,657	735,410	683,957	
186,245	203,532	222,366	190,249	430,176	360,230	473,350	471,324	18
15,491	18,495	24,722	22,995	15,492	18,496	24,758	23,002	19
1,069,795	1,251,013	1,661,013	1.565,479	1,070,193	1,251,070	1,662,425	1,574,107	
144,477	220,059	213,198	346,780	146,724	220,965	215,972	347,368	20
354,365	686,888	853,295	600,987	412,642	687,299	872,040	638,674	21
348,141	255,983	429,350	1,141,218	622,269	542,932	669,028	1,550,810	22
1,467	467	514	987	1,478	480	550	1,075	23
483,525	451,679	618,281	790,596	491,271	472,752	635,189	879,986	
1,014,654	802,600	1,776,941	5,461,999	1,015,616	807,741	1,779,221	5,486,190	24
810,919	915,238	1,449,055	2,474,976	850,127	1,033,230	1,570,243	2,711,629	25
4,181	7,934	9,897	8,501	4,191	7,956	9,923	8,553	26
668,171	967,725	1,268,044	1,109,286	670,770	990,500	1,269,423	1,112,992	
14,088	16,367	20,832	18,706	14,103	16,455	21,044	19,120	27
806,462	899,134	1,112,228	952,537	807,063	901,309	1,115,982	968,907	
591,297	678,373	684,679	740,114	599,122	682,045	689,553	740,768	28
1,488,097	2,289,315	3,232,033	1,642,514	1,596,174	2,505,113	3,515,309	2,020,851	29
671,761	962,254	1,136,936	1,086,194	672,041	962,869	1,161,653	1,087,727	30
563,692	742,976	1,001,225	885,414	626,281	836,219	1,093,572	991,603	31
818,786	943,588	1,273,003	1,371,917	885,325	1,028,689	1,393,839	1,529,322	32
174,416	419,870	247,505	210,400	242,433	488,084	538,654	470,278	33
166	268	338	466	176	283	342	491	34
583,582	1,056,429	1,357,874	1,505,161	594,958	1,152,132	1,395,607	1,587,734	
741,976	926,459	1,271,518	1,355,004	1,112,988	1,231,327	1,424,028	1,407,050	35
2,122,060	3,469,571	4,546,620	4,797,712	2,279,377	3,556,849	4,702,307	5,089,769	36
3,530,648	2,326,134	1,390,874	1,213,541	4,466,465	3,519,535	1,757,950	1,259,567	37
7,380	7,957	9,066	1,002	7,468	8,063	9,177	10,211	38
881,810	902,123	1,130,989	1,714,231	967,553	981,695	1,210,636	1,834,449	
238,495	280,479	562,672	795,057	239,507	284,601	563,577	801,705	39
51	108	169	173	51	109	172	174	40
562,005	943,738	1,487,139	2,387,776	562,005	951,766	1,533,649	2,394,584	
2,844,413	3,346,417	3,825,228	4,900,235	3,855,639	4,939,294	5,038,465	6,434,394	41
35,710,103	42,343,396	54,614,486	62,692,524	41,081,674	48,600,613	60,262,591	69,117,528	

13.—Principal Imports into Canada for Consumption from United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	V. Iron and Its Products—concluded.					
1	Springs	$	1,760	2,063	491	603
	Stamped and Coated Products—					
2	Tin cans	$	33,092	42,775	42.873	53,333
3	Other stamped and coated products	$	146,100	150,336	182,309	219,513
4	Tools and hand implements	$	266,131	272,656	312,845	324,657
	Vehicles—					
5	Automobiles, freight	No.	78	129	98	140
		$	186,014	270,042	218,300	312,413
6	Automobiles, passenger	No.	111	56	55	43
		$	175,468	128,887	119,891	133,733
7	Automobile parts	$	69,476	92,297	41,055	52,754
8	Railway cars, all kinds	No.	48	86	64	157
		$	2,296	4,789	2,500	10.071
9	Railway cars, parts of	$	110,990	48,602	196,421	66,751
	Totals, Vehicles[1]	$	656,448	698,232	778,258	871.671
10	Drums, tanks, cylinders	$	34,913	50,726	67.414	85,186
11	Furniture	$	19,437	33,789	26,017	35.809
12	Plates, for agricultural implements	cwt.	153	–	–	–
		$	355	–	–	–
13	Pumps, hand	$	2,512	1,188	735	1,472
14	Stoves	$	2,254	2,041	8,641	3,975
15	Valves	$	31,470	48,079	55,292	71,952
16	Articles for shipbuilding	$	131,546	194,846	193,330	312,532
	Totals, Iron and Its Products[1]	$	**15,008,951**	**17,725,749**	**18,997,316**	**21,639,945**
	VI. Non-Ferrous Metals.					
17	Alumina and bauxite	cwt.	672	–	–	–
		$	508	–	–	–
18	Cryolite	cwt.	–	–	–	–
		$	–	–	–	–
19	Aluminium ingots, sheets	lb.	874,093	887,578	801,919	688.499
		$	229,029	246,183	229,414	190,666
	Totals, Aluminium[1]	$	350,058	356,816	331,966	387,462
	Brass—					
20	Scrap	cwt.	–	487	224	103
		$	–	6,476	3,182	521
21	Bars and rods	cwt.	3,472	2,474	3,297	4,446
		$	51,671	38,202	50,803	76,368
22	Strips, sheets, plates	cwt.	689	521	1.126	1,884
		$	14,373	10,831	22,360	43,260
23	Tubing	lb.	462,373	494,555	652,255	1,065,255
		$	106,890	114,731	140.539	257,790
24	Wire, plain	lb.	22,395	29,473	37,322	64,627
		$	7,066	8,838	11,332	19,826
	Totals, Brass[1]	$	515,589	526,536	647,749	850,231
	Copper—					
25	Blocks, pigs, ingots	cwt.	–	–	–	–
		$	–	–	–	–
26	Scrap	cwt.	–	20	710	122
		$	–	231	9,934	1,504
27	Bars and rods	cwt.	120	628	52	367
		$	2,123	6,887	922	7,944
28	Strips, sheets, plates	cwt.	368	919	2,556	2,978
		$	9,204	20,150	63,135	77,780
29	Tubing	lb.	217,460	195,944	266,218	410,977
		$	50,528	46,195	62,724	115.058
	Totals, Copper[1]	$	191,301	150,582	298,241	489,248
	Lead—					
30	Pig and sheets	lb.	481,631	185,102	365,452	1,080,191
		$	34,233	11,680	19,296	59,233
31	Other lead	$	153,216	172,756	151,710	123,717
	Nickel—					
32	Bars, rods, sheets, etc	lb.	–	368	2,276	191
		$	–	127	848	85
33	Nickel-plated ware	$	155,738	278,975	239,029	279,690
34	Other nickel	$	20,027	587,925	139,789	81,998

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
187,860	185,956	275,503	300,259	190,009	188,140	276,479	300,993	1
644,662	593,805	474,134	580,830	679,371	639,469	520,454	638,461	2
1,206,586	1,197,337	1,573,306	1.513,367	1,413,612	1,439,547	1,896,148	1,882,359	3
1,781,953	1,864,810	2,427,399	2,412,356	2,409,152	2,551,118	3,194,980	3,192,449	4
2,470	4,078	7,319	4,926	2,548	4,208	7,417	5,078	5
3,014,612	4,917,317	8,577,629	6,089,769	3,200,626	5,187,889	8,795,929	6,403,794	
29,082	35,723	42,386	33,777	29,202	35,783	42,447	33,834	6
23,687.560	29,099,989	34,041,286	27,911,295	23,882,455	29,234,603	34,173.547	28,060,872	
30,194,863	33,104,133	55,467,166	35,536,938	30,336,461	33,237,181	55,761,414	35,746,929	7
599	1,023	1,010	1,107	660	1,158	1,118	1,368	8
741,428	507,987	871,882	881,578	744,291	515,170	877,147	899,177	
897,016	926,178	1,406,110	1,502,565	1,008,006	975,050	1,602,729	1,569,316	9
59,121,221	69,640,997	101,891,031	73,846,161	59,874,191	70,395,597	102,946,783	74,938,096	
679,538	968,227	1,185,313	1,491,886	876,508	1,202,878	1,461,321	1,745,030	10
569,557	856,116	1,220,324	1,405,153	592,188	913,208	1,259,964	1,558,941	11
61,379	61,607	24,040	8,347	61,532	61,607	24,040	8,347	12
314,534	302,650	103,763	40,301	314,889	302,650	103,763	40,301	
595,314	370,614	547,582	573,161	607,452	388,264	572,861	594,502	13
488,044	717,704	862,436	759,434	497,401	726,902	878,487	771,914	14
682,028	707,208	854,583	1,354,057	714,437	759,461	920,762	1,432,828	15
1,220,523	1,075,206	1,163,299	2,198,161	1,456,093	1,350,043	1,479,127	2,657,184	16
206,655,021	**233,991,426**	**317,089,125**	**284,164,438**	**229,429,485**	**259,575,020**	**346,615,810**	**316,878,627**	
1,568,228	2,372,150	2,294,437	2,201,442	1,568,908	2,653,397	3,376,730	2,691,175	17
3,634,108	6,239,427	3,625,940	2,981,772	3,634,939	6,281,232	3,805,914	3,089,063	
78,336	9,379	10,783	2,755	78,336	9,769	68,181	47,602	18
473,523	48,829	76,269	23,114	473,523	52,005	297,712	191,490	
210,085	391,690	287,185	376,503	1,084,178	1,306,005	1,101,761	1,073,574	19
64,439	145,537	82,398	122,587	293,468	399,127	315,253	315,570	
5,102,804	7,521,267	5,451,905	5,220,867	5,573,515	8,190,535	6,370,036	6,058,864	
29,105	28,539	50,350	24,874	31,047	29,929	53,347	25,765	20
284,464	275,005	599,172	339,518	297,148	288,408	625,027	344,905	
6,430	3,689	6,018	4,604	9,902	6,163	9,245	9,050	21
122,816	72,258	121,948	106,382	174,493	110,460	170,967	182,750	
13,033	7,153	14,441	9,508	13,722	7,674	15,637	11,392	22
239,461	142,079	281,177	226,701	253,834	152,910	305,321	269,961	
2,452,279	2,167,109	3,162,369	2,822,957	2,933,727	2,676,531	3,845,790	3,915,697	23
589,144	488,015	744,808	718,437	699,912	605,912	892,573	981,844	
439,021	356,782	398,043	424,774	474,696	387,993	435,365	489,967	24
113,560	88,270	99,891	124,775	125,287	97,465	111,223	144,817	
4,188,496	4,263,603	5,699,042	5,712,015	4,995,981	5,153,663	6,755,538	7,000,455	
80,398	31,916	93,156	110,350	80,398	31,916	93,156	110,350	25
1,137,701	442,653	1,474,620	2,059.869	1,137,701	442,653	1,474,620	2,059,869	
47,088	44,391	72,422	24,214	47,155	44,935	73,341	25,357	26
622,679	562,813	1,080,009	421,454	623,031	567,377	1,092,120	435,298	
194,660	283,426	443,089	469,312	195,622	284,896	444,141	470,189	27
2,968,032	4,005,579	7,023,390	8,821,880	2,981,677	4,024,828	7,040,012	8,838,477	
19,993	16,686	28,789	16,859	20,361	17,698	31,450	19,886	28
420,665	340,591	604,890	445,586	429,869	362,520	670,010	524,400	
2,348,072	1,836,740	2,320,837	2,081,463	2,587,584	2,045,121	2,610,568	2,501,680	29
523,888	436,767	565,582	563,973	579,539	486,265	633,464	681,285	
6,820,966	7,062,232	12,715,820	14,365,059	7,071,553	7,249,634	13,067,992	14,898,632	
366,303	280,623	317,788	345,761	851,718	471,420	697,655	1,441,284	30
40,466	22,001	24,094	28,625	75,015	34,021	44,141	88,673	
95,101	96,958	108,599	107,654	302,120	344,794	359,503	304,472	31
1,110,429	693,319	766,755	1,472,948	1,110,429	693,687	769,031	1,473,139	32
250,763	202,157	296,408	378,695	250,763	202,284	297,256	378,780	
1,339,750	1,750,567	2,269,322	2,362,577	1,619,179	2,308.586	2,858,227	3,022,935	33
305,826	315,321	523,439	673,582	341,005	913,805	668,410	769,482	34

13.—Principal Imports into Canada for Consumption from United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	VI. Non-Ferrous Metals—concluded.					
	Precious Metals—					
1	Electro-plated ware	$	629,397	790,665	960,333	1,078,823
2	Silver in bars, blocks, etc	$	12,459	10,292	34,899	18,798
3	Other precious metals	$	272,130	303,276	366,844	315,308
	Tin—					
4	Blocks, bars, pigs	cwt.	16,435	15,462	22,843	11,907
		$	1,057,174	948,157	1,112,963	538,193
5	Foil	lb.	8,023	4,503	7,618	1,520
		$	7,545	4,057	7,099	963
6	Other (collapsible tubes)	$	24,835	31,658	20,762	31,945
	Zinc—					
7	Spelter	lb.	11,200	–	122,080	–
		$	949	–	7,032	–
8	Sheets and plates	lb.	184,495	140,720	69,461	373,847
		$	17,765	21,823	4,980	20,194
9	Other zinc	$	1,431	933	2,371	2,175
10	Phosphor tin and bronze	lb.	196,490	176,101	229,746	185,535
		$	72,962	60,500	77,318	73,081
11	Clocks and watches	$	65,997	75,004	70,110	83,441
	Electric Apparatus—					
12	Batteries, storage	No.	895	138	34	613
		$	327,444	236,485	319,258	312,939
13	Dynamos, generators	$	268,353	389,820	294,116	534,031
	Incandescent Lamps—					
14	Carbon filament	No.	515	1,136	528	5,595
		$	220	227	322	731
15	Metal filament	No.	10,407	8,612	12,201	5,660
		$	2,713	1,489	3,304	2,377
16	Electric light fixtures	$	9,427	14,941	19,382	36,982
17	Meters	$	63,473	18,960	41,246	53,634
18	Motors	$	467,860	494,641	547,644	627,605
19	Spark plugs, etc	$	5,504	14,242	15,060	14,685
20	Switches, etc	$	71,889	86,117	63,764	328,379
21	Telegraph instruments	$	29,841	19,336	19,523	105,401
22	Telephone instruments	$	187,033	60,305	215,866	228,640
23	Wireless and radio apparatus	$	118,459	128,073	115,989	103,802
	Totals, Electric Apparatus, n.o.p.[1]	$	1,806,626	1,740,302	1,927,193	2,727,203
24	Gas apparatus	$	10,173	6,258	5,818	5,964
	Printing Materials (except Machinery)—					
25	Stereotypes	sq. in.	41,118	28,549	68,788	53,700
		$	3,207	2,863	4,239	3,858
26	Other printing materials	$	14,886	17,101	14,891	12,333
27	Manganese oxide	cwt.	115,200	–	31	18
		$	71,644	–	105	64
28	Antimony, not ground	lb.	44,800	40,660	75,373	15,680
		$	7,049	5,390	8,600	1,768
29	Mercury	lb.	14,802	4,615	33,670	103,685
		$	14,944	6,554	50,132	142,789
30	Lamps, sidelights, etc	$	34,193	39,786	34,347	50,815
	Totals, Non-Ferrous Metals[1]	$	**5,642,570**	**6,334,885**	**6,653,832**	**7,504,415**
	VII. Non-Metallic Minerals.					
31	Asbestos, other than crude	$	96,519	121,028	130,447	140,114
	Clay and Clay Products—					
32	China clay	cwt.	201,812	274,201	228,697	277,071
		$	95,681	127,089	118,337	142,585
33	Fire clay	cwt.	27,716	22,127	25,650	25,732
		$	11,286	9,126	7,819	8,122
34	Bricks, building	M	7	199	60	306
		$	200	9,360	3,511	12,564
35	Bricks, fire	$	133,036	160,099	177,930	225,679
36	Brick and tile, n.o.p	$	259,034	308,259	403,132	478,319
37	Pottery and chinaware	$	2,655,125	2,863,582	2,748,025	3,084,255
38	Artificial teeth	$	5,860	1,715	2,465	389
39	Bath tubs, etc	$	317,236	384,254	461,368	461,227
	Totals, Clay and Clay Products[1]	$	3,507,297	3,909,126	3,957,778	4,450,270

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
178,242	202,404	238,506	245,501	880,532	1,070,266	1,276,130	1,399,482	1
959,947	882,697	994,601	822,038	972,406	893,380	1,029,524	.851,923	2
384,080	334,096	376,030	400,854	745,604	719,459	820,437	772,402	3
26,312	28,915	24,961	40,480	50,858	48,742	58,928	56,318	4
1,677,831	1,763,155	1,307,892	1,767,359	3,258,515	2,986,784	2,987,502	2,488,074	
288,713	106,003	90,231	98,094	296,736	116,135	97,849	100,104	5
140,747	69,763	49,139	49,868	148,292	77,511	56,238	51,008	
24,252	42,574	22,941	28,389	49,152	74,340	43,703	60,334	6
1,287,499	1,206,750	1,959,286	2,820,678	1,312,169	41,217,950	2,104,802	2,929,405	7
93,209	75,815	116,605	170,600	96,275	76,664	125,011	176,987	
3,699,932	3,331,352	4,423,329	4,574,503	5,663,810	5,550,836	9,975,498	11,430,802	8
369,811	297,134	365,655	379,780	559,529	472,578	731,195	820,409	
207,581	314,835	205,023	194,590	209,599	317,280	210,345	201,048	9
402,743	417,595	463,715	501,822	665,226	682,331	788,266	812,826	10
168,890	157,697	191,530	223,435	267,222	249,631	303,054	342,476	
1,190,773	1,218,964	1,333,282	1,225,146	3,141,254	3,303,798	3,576,029	3,495,659	11
39,392	28,592	29,462	20,486	40,287	28,735	29,499	21,257	12
389,003	290,496	312,274	296,226	716,553	527,031	631,557	609,509	
834,665	924,153	1,248,639	1,805,282	1,178,380	1,328,628	1,557,009	2,486,956	13
156,806	175,885	46,032	523,881	1,496,694	1,786,232	1,161,808	1,665,668	14
9,907	18,740	5,914	106,029	77,462	97,495	56,211	168,261	
452,088	301,732	346,626	167,929	2,881,548	3,054,346	1,492,304	562,206	15
88,156	59,035	69,819	45,447	270,719	222,677	134,063	71,536	
679,364	772,449	1,040,948	1,085,413	709,417	813,979	1,102,905	1,181,572	16
331,495	327,412	365,072	335,421	398,283	346,515	408,173	391,364	17
1,917,870	2,307,988	3,599,225	3,889,867	2,403,668	2,964,123	4,306,317	4,657,349	18
653,716	732,433	1,081,650	1,147,858	659,226	747,697	1,108,818	1,175,379	19
1,157,773	1,329,552	1,536,082	2,448,791	1,274,710	1,420,474	1,613,250	2,783,507	20
200,420	186,733	473,382	481,577	230,261	206,612	493,061	586,978	21
685,301	812,413	1,638,358	2,794,470	872,334	873,032	1,854,518	3,023,433	22
2,563,052	3,566,598	5,822,286	10,420,158	2,708,413	3,701,009	5,939,116	10,556,028	23
14,596,424	16,761,915	24,410,750	34,177,488	16,932,193	19,044,465	26,775,215	37,611,263	
157,300	211,930	249,837	275,565	172,500	227,767	263,405	285,358	24
5,280,189	6,795,114	5,909,885	6,089,206	5,323,438	6,826,874	5,985,608	6,144,269	25
296,617	259,162	332,763	357,386	300,024	262,402	337,953	371,435	
102,694	87,848	113,093	101,517	120,473	110,645	133,188	116,355	26
19,192	35,097	26,147	31,238	767,539	1,400,062	2,130,491	1,981,548	27
57,414	88,702	55,968	79,705	776,579	1,456,142	1,053,780	998,217	
1,124,604	1,017,663	1,595,545	1,288,538	1,268,712	1,074,003	1,850,511	1,509,246	28
144,487	110,901	141,790	102,561	162,530	117,742	165,271	120,654	
35,688	40,041	130,621	120,231	114,450	99,056	202,296	379,372	29
37,134	57,317	171,400	168,299	105,138	136,675	274,148	523,352	
871,268	947,124	1,463,156	1,360,712	957,848	1,088,973	1,644,898	1,573,409	30
42,224,587	**47,845,775**	**62,104,988**	**73,738,731**	**52,747,842**	**69,190,036**	**75,438,431**	**87,950,252**	
511,708	531,783	784,119	804,237	622,793	671,407	929,897	952,650	31
185,490	179,216	194,825	240,255	387,676	453,437	423,963	518,270	32
126,817	117,388	128,518	163,803	223,802	244,485	247,391	306,987	
930,725	928,597	1,344,879	1,492,286	958,441	951,444	1,371,621	1,519,581	33
184,708	209,288	280,825	317,774	195,994	219,074	289,555	326,994	
4,286	8,002	12,678	15,129	4,293	8,201	14,792	15,435	34
100,385	155,346	245,394	274,769	100,585	164,706	257,121	287,333	
1,413,553	1,701,424	1,799,807	2,420,831	1,547,617	1,869,110	1,978,074	2,654,934	35
312,307	281,470	380,585	536,924	650,043	708,537	940,264	1,223,871	36
322,586	344,755	424,394	480,904	4,508,513	4,930,329	4,886,032	5,492,602	37
372,832	400,184	429,439	482,699	378,742	402,074	431,938	483,089	38
92,412	103,088	121,613	192,104	409,723	487,373	583,195	654,091	39
3,428,888	3,831,016	4,478,579	5,578,767	8,590,056	9,662,412	10,417,260	12,256,769	

13.—Principal Imports into Canada for Consumption from United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	VII. Non-Metallic Minerals—concluded.					
	Coal and Coal Products—					
1	Coal, anthracite	ton	178,360	780,321	552,974	786,530
		$	1,693,979	6,192,720	3,686,131	4,906,974
2	Coal, bituminous	ton	4,470	127,686	146,908	121,375
		$	20,915	495,355	472,939	400,529
3	Coal for ships' stores	ton		–	–	–
		$	–	–	–	–
4	Coal tar, crude and pitch	gal.	11,419	167,632	518	4,355
		$	1,729	10,644	111	2,681
5	Carbolic oil	gal.	2,353,413	164,755	262,536	500,078
		$	351,822	38,890	52,167	85,202
6	Coke	ton	997	12,911	29,354	11,162
		$	5,641	107,371	158,997	63,297
	Totals, Coal and Coal Products[1]	$	2,074,086	6,844,980	4,370,345	5,458,683
	Glass and Glassware—					
7	Carboys, bottles, jars, milk bottles, etc.	$	105,523	102,832	100,110	131,104
8	Tableware	$	44,174	55,344	66,099	84,893
9	Window glass, common	sq. ft.	2,760,122	2,739,311	2,197,366	2,285,619
		$	104,423	94,230	83,864	86,472
	Plate Glass—					
10	Not over 7 sq. ft.	sq. ft.	1,368,251	1,171,072	666,360	810,272
		$	611,104	445,419	214,992	255,248
11	7 to 25 sq. ft.	sq. ft.	247,620	216,952	281,751	398,396
		$	131,231	96,704	121,916	157,308
12	Other plate glass, not bevelled	sq. ft.	434,917	489,685	598,542	569,739
		$	239,613	229,294	252,793	223,760
13	Incandescent lamp bulbs and tubing for	$	415	–	–	53
	Totals, Glass and Glassware[1]	$	1,502,094	1,331,305	1,226,413	1,375,117
14	Graphite and its products	$	42,521	51,883	49,605	42,118
	Petroleum, Asphalt and Their Products—					
15	Asphalt, solid	cwt.	1,116	27	121	499
		$	1,758	348	398	443
	Crude Petroleum—					
16	For refining	gal.	–	–	–	–
		$	–	–	–	–
17	Other, ·8235 specific gravity and heavier	gal.	–	–	–	–
		$	–	–	–	–
18	Fuel oil for ships' stores	gal	–	–	–	–
		$	–	–	–	–
19	Coal, and kerosene oil, refined	gal.	–	–	–	208
		$	–	–	–	60
20	Gasolene	gal.	–	1,840	–	–
		$	–	513	–	–
21	Lubricating oils	gal.	115,392	336,910	387,414	486,295
		$	97,632	241,880	264,736	295,378
	Totals, Petroleum, Asphalt and Their Products	$	153,601	328,566	303,690	314,529
	Stone and Its Products—					
22	Abrasives	$	193,135	226,515	258,039	181,295
23	Building and paving stone	$	102,321	96,061	100,653	91,943
24	Cement	cwt.	–	560	80	45,911
		$	–	803	162	58,241
25	Silica sand	cwt.	358	112	3	896
		$	223	59	36	1,199
26	Whiting	cwt.	221,898	181,068	180,724	190,343
		$	135,183	100,974	99,006	106,564
	Totals, Stone and Its Products[1]	$	524,144	521,766	605,723	566,491
27	Carbons, electric	$	2,738	1,000	507	938
28	Diamonds, unset	$	1,042,672	987,296	1,085,847	928,488
29	Insulators, electric	$	1,889	9,408	7,060	6,508
30	Salt	cwt.	393,297	490,404	511,836	464,978
		$	240,156	262,327	246,433	205,268
31	Sulphur	cwt.	–	33	4	26
		$	–	90	10	82
	Totals, Non-Metallic Minerals[1]	$	**9,253,721**	**14,467,621**	**12,100,661**	**13,601,753**

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
4,134,188	3,378,232	3,312,093	3,235,032	4,376,668	4,168,526	3,882,418	4,136,399	1
32,806,645	25,555,154	24,753,718	23,991,078	35,097,013	31,826,453	28,529,122	29,582,590	
13,074,698	12,663,415	13,077,619	13,764,563	13,079,418	12,791,273	13,224,564	13,886,010	2
26,958,685	25,899,251	25,430,255	25,888,784	26,980,950	26,395,455	25,903,628	26,290,339	
–	537,252	658,960	461,338	–	537,252	658,960	461,338	3
–	1,086,486	1,177,524	877,042	–	1,086,486	1,177,524	877,042	
3,427,139	4,260,070	25,975,737	6,414,894	3,441,983	4,427,702	5,976,575	6,419,329	4
239,088	320,484	441,165	507,537	241,787	331,128	441,383	510,243	
1,338,544	659,566	1,152,221	1,400,053	4,320,054	1,347,007	1,915,528	2,485,061	5
249,040	135,712	213,402	254,635	707,158	284,472	361,373	441,126	
865,337	785,969	1,133,635	1,156,363	889,392	816,323	1,171,663	1,171,355	6
5,370,704	4,593,538	6,448,037	6,319,199	5,537,604	4,810,446	6,647,955	6,403,354	
65,696,277	57,671,470	58,539,199	57,916,923	68,636,627	64,815,285	63,136,083	64,183,342	
1,108,257	1,167,103	1,241,419	1,367,572	1,389,207	1,444,259	1,524,950	1,719,438	7
583,077	572,769	636,706	678,459	868,395	901,029	1,048,599	1,114,983	8
249,505	67,155	142,309	607,452	40,275,041	43,984,102	44,315,528	53,189,468	9
38,986	8,824	17,617	43,928	1,187,776	1,163,911	1,168,734	1,649,494	
407,656	1,135,887	1,152,611	1,314,225	4,021,948	3,672,517	5,337,647	4,344,865	10
145,373	384,118	414,614	488,116	1,612,885	1,187,593	1,469,900	1,319,727	
53,859	177,689	209,427	154,564	730,476	676,878	1,013,248	1,050,429	11
20,226	71,701	83,917	65,706	359,916	262,157	360,294	391,176	
26,857	256,511	254,474	177,936	1,065,336	1,078,085	1,452,506	1,570,203	12
10,502	108,614	103,732	75,082	566,756	462,104	565,950	629,433	
514,213	454,847	514,695	547,367	552,500	535,663	560,261	596,970	13
3,754,819	4,069,675	4,861,164	5,081,152	8,638,579	8,129,616	9,717,519	10,453,706	
80,686	71,238	87,803	109,597	123,705	123,121	137,443	151,715	14
435,717	968,841	983,874	1,069,157	440,193	974,502	983,995	1,071,856	15
447,157	861,640	838,627	822,478	450,865	865,573	839,025	824,271	
505,235,255	470,552,886	613,877,907	839,762,765	596,466,714	709,959,837	865,335,849	1,110,169,704	16
26,014,387	18,872,741	24,890,441	35,962,583	32,375,077	30,796,263	35,365,847	48,332,001	
82,884,738	60,496,565	49,721,798	51,546,604	97,120,093	75,914,345	54,845,275	67,736,736	17
3,342,859	2,516,094	1,989,461	1,890,595	4,063,272	3,234,704	2,204,975	2,535,096	
–	30,108,245	28,276,261	26,983,829	–	44,074,770	33,096,277	31,163,811	18
–	1,059,565	860,068	707,243	–	1,728,699	984,524	824,536	
4,991,364	3,985,408	3,751,810	4,831,014	4,991,423	3,987,460	3,752,170	4,833,637	19
557,695	335,346	338,887	428,823	557,711	335,945	338,971	429,377	
87,549,326	112,232,211	152,619,597	169,619,047	87,550,221	112,250,169	152,658,272	169,626,215	20
12,473,042	11,545,444	18,034,215	18,867,547	12,473,364	11,549,807	18,038,367	18,869,236	
10,707,116	12,228,343	15,892,207	16,833,040	10,823,082	12,566,986	16,283,090	17,323,178	21
3,052,091	3,465,372	4,518,282	5,175,690	3,150,169	3,708,791	4,785,355	5,474,108	
47,182,371	39,850,535	52,876,140	65,257,177	54,457,793	53,529,319	64,053,306	78,768,061	
2,691,572	3,050,185	4,346,197	3,876,280	2,909,967	3,328,884	4,646,551	4,126,629	22
314,522	357,907	498,695	672,621	497,656	539,234	713,129	875,095	23
61,332	70,792	116,803	153,497	62,725	73,652	121,209	246,085	24
80,379	87,533	144,497	174,918	81,715	90,613	149,436	247,709	
2,630,234	2,318,826	2,611,351	3,982,743	3,178,640	2,917,356	3,267,476	4,702,068	25
324,455	266,258	307,896	411,714	381,408	329,706	371,776	481,143	
74,705	81,924	107,908	107,960	349,581	306,761	345,220	357,951	26
53,923	58,535	72,274	69,582	212,347	181,705	198,989	207,394	
4,966,829	5,378,067	7,306,630	7,402,916	5,965,893	6,395,610	8,537,893	8,702,988	
1,261,423	766,567	439,503	468,860	1,271,090	771,927	450,265	493,523	27
25,087	17,926	60,150	19,259	2,799,520	3,067,838	3,182,289	3,193,871	28
232,549	283,298	416,584	417,678	276,486	310,368	432,145	453,595	29
2,076,958	2,153,011	2,161,623	1,583,691	3,624,733	3,500,272	3,741,721	3,415,651	30
582,766	649,918	686,981	496,286	1,025,722	1,067,104	1,106,728	897,925	
3,724,254	3,591,684	3,571,653	4,729,088	3,726,983	3,593,658	3,572,163	4,729,965	31
2,998,371	2,902,866	2,937,814	3,822,267	3,004,540	2,907,539	2,938,804	3,823,245	
131,955,558	**117,447,997**	**135,154,049**	**149,293,985**	**156,784,707**	**153,049,438**	**166,964,231**	**186,496,388**	

13.—Principal Imports into Canada for Consumption from United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	VIII. Chemicals and Allied Products.					
1	Acids	$	111,630	205,953	391,376	449,586
2	Cellulose products	$	81,105	86,141	91,852	77,648
3	Drugs and medicinal preparations	$	1,107,817	908,983	1,043,526	981,262
	Dyeing and tanning materials—					
4	Coal tar and aniline dyes	lb.	139,137	105,534	126,035	165,067
		$	87,530	76,013	82,456	88,834
5	Logwood, oka, quebracho extracts	lb.	410,425	428,316	223,789	255,908
		$	19,275	23,016	13,089	11,365
	Totals, Dyeing and Tanning Materials[1]	$	157,581	138,316	153,008	159,137
6	Explosives	$	101,968	61,772	58,877	59,803
	Fertilizers, n.o.p.—					
7	Potash, muriate of	cwt	–	–	–	–
		$	–	–	3	–
8	Soda nitrate	cwt.	17,870	172	240	1,460
		$	36,994	727	1,233	3,082
9	Superphosphates	cwt	–	21,560	100	112
		$	–	9,712	80	50
	Totals, Fertilizers, n.o.p.[1]	$	46,879	26,198	11,986	52,382
	Paints, Pigments and Varnishes—					
10	Litharge	cwt.	7,908	11,620	16,579	20,827
		$	72,290	86,612	111,305	156,173
11	Lead, red	lb.	645,637	963,070	927,859	1,067,560
		$	58,948	60,956	63,997	80,046
12	Black, carbon	lb.	–	–	3,250	2,768
		$	–	–	83	48
13	Blacks, other	lb.	134,518	563,819	387,942	350,890
		$	6,183	22,935	16,242	16,357
14	Lithopone	lb.	1,155,960	1,416,872	2,032,522	2,565,553
		$	45,852	52,392	78,185	102,057
15	Oxide of cobalt, etc	lb.	156,748	96,253	115,504	101,527
		$	87,790	60,152	60,290	37,354
16	Oxides, fireproofs	lb.	1,177,304	1,199,906	1,546,355	1,532,397
		$	126,686	133,304	157,440	152,425
17	Zinc, white	lb.	122,648	144,640	427,169	488,211
		$	9,472	10,821	21,817	28,187
18	Liquid fillers, etc	gal.	–	–	132,627	157,556
		$	156,409	149,510	168,807	177,143
19	Varnish, lacquers, etc	gal.	14,363	19,683	27,695	25,014
		$	24,760	33,037	44,200	41,426
	Totals, Paints, etc.[1]	$	724,427	771,371	895,101	933,754
	Perfumery, Cosmetics—					
20	Perfumes, Alcoholic	$	28,828	36,584	32,032	43,420
	Totals, Perfumery, Cosmetics[1]	$	255,576	285,750	262,840	301,350
	Soaps—					
21	Castile	lb.	5,983	7,524	6,203	3,166
		$	677	1,126	637	415
22	Laundry, common	lb.	98,583	86,841	162,950	276,854
		$	8,757	7,658	14,400	24,864
	Totals, Soaps[1]	$	137,187	148,156	164,520	164,273
	Inorganic Chemicals, n.o.p.—					
23	Sulphate of alumina	cwt.	16,767	9,176	17,332	38,042
		$	16,227	10,397	19,113	31,471
24	Ammonia, nitrate of	lb.	1,184	1,573,877	4,048,000	4,915,891
		$	96	85,597	154,145	184,066
25	Sal ammoniac	lb.	617,213	271,468	428,581	434,867
		$	34,268	13,498	21,976	19,423
26	Copper sulphate	lb.	1,316,673	884,694	1,388,227	839,436
		$	60,797	43,121	70,432	45,854
27	Chlorine, liquid	lb.	–	–	–	–
		$	–	–	–	–
28	Chloride of lime	lb.	704,506	1,487,763	2,502,953	2,940,670
		$	13,700	25,629	39,598	45,228

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[1] Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1927-1930—continued.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
340,409	385,862	504,049	486,522	618,477	743,217	1,116,543	1,179,588	1
2,011,001	2,146,027	2,274,061	2,314,080	2,335,385	2,508,493	2,619,303	2,787,612	2
1,416,748	1,446,654	1,946,554	2,057,508	3,108,199	3,036,439	3,727,106	3,808,721	3
2,055,224	2,000,867	2,261,135	2,258,649	3,547,620	3,460,387	3,738,270	3,862,323	4
992,523	932,324	1,073,872	1,086,906	1,954,852	1,775,753	1,921,960	1,981,504	
25,650,341	33,853,091	40,379,235	28,217,086	37,542,752	42,878,857	41,382,901	28,598,253	5
902,624	1,288,140	1,565,157	1,067,797	1,388,860	1,717,014	1,616,590	1,086,457	
2,159,462	2,555,003	2,963,271	2,498,173	3,738,952	3,940,933	3,981,720	3,548,656	
272,335	460,285	445,948	445,319	469,893	586,668	557,025	562,111	6
86,342	131,150	147,285	115,007	314,866	379,529	400,977	393,656	7
143,877	214,004	291,482	215,047	472,071	670,023	705,002	709,843	
200,531	294,486	355,760	325,421	454,264	548,446	560,056	696,582	8
527,030	719,895	824,109	717,534	1,115,608	1,263,710	1,238,961	1,447,825	
1,483,570	1,624,688	1,630,960	1,924,744	1,529,810	1,734,455	1,879,922	2,108,382	9
900,003	888,875	1,041,557	1,141,876	927,176	945,032	1,168,295	1,232,098	
2,415,459	2,921,189	3,658,882	3,304,735	3,492,448	4,145,158	4,847,498	5,033,592	
15,000	12,721	21,946	26,187	25,165	30,556	44,584	51,129	10
150,434	103,387	166,169	208,070	239,787	234,227	314,445	393,518	
529,741	169,021	234,889	421,165	1,289,975	1,869,477	1,451,678	1,811,982	11
53,538	16,100	18,154	37,032	121,995	119,222	100,795	140,855	
6,860,589	10,000,898	13,934,402	14,228,223	6,885,744	10,079,921	14,039,959	14,355,462	12
494,757	659,857	935,933	921,295	497,225	667,094	944,973	932,529	
1,221,508	1,334,158	1,213,133	869,361	1,427,863	1,997,831	1,759,994	1,334,659	13
113,380	114,158	95,527	84,994	124,228	144,733	126,080	108,107	
3,620,126	3,985,928	7,019,095	8,380,059	13,768,543	15,821,372	17,259,510	19,637,481	14
188,191	203,813	343,498	400,157	572,283	646,231	760,802	863,381	
122,903	129,077	152,545	177,003	293,099	228,342	272,899	281,049	15
67,250	68,831	76,026	77,523	160,633	130,695	137,329	115,330	
4,982,404	5,160,243	5,343,250	5,493,089	6,357,798	6,590,261	7,184,925	7,461,436	16
445,514	463,199	566,118	614,443	598,177	624,690	750,154	800,843	
10,322,473	12,901,334	14,370,937	14,153,008	14,011,246	17,038,221	18,965,657	17,787,070	17
710,426	850,418	950,278	921,792	982,119	1,126,850	1,228,178	1,150,547	
–	–	283,283	313,904	–	–	426,672	481,591	18
342,860	361,969	411,984	417,930	511,686	528,387	595,479	615,345	
117,080	89,632	120,859	105,122	131,953	109,821	149,307	130,789	19
255,615	181,271	210,160	199,321	281,479	216,262	256,283	242,624	
3,115,553	3,327,713	4,135,617	4,218,451	4,607,411	5,015,186	5,854,804	5,957,078	
19,686	24,673	22,209	32,030	199,320	220,859	243,839	234,366	20
518,128	602,193	721,179	762,900	1,103,653	1,312,843	1,419,897	1,450,318	
55,212	98,353	42,671	20,141	1,331,991	1,215,658	1,145,803	1,300,531	21
7,059	14,234	5,314	2,928	107,494	101,312	90,248	97,616	
9,652,551	9,491,341	9,382,353	11,136,803	9,812,480	9,652,153	9,593,746	11,456,672	22
680,875	692,413	698,381	831,067	695,013	705,996	716,653	859,273	
920,651	893,155	865,807	1,005,861	1,204,622	1,178,108	1,162,051	1,316,418	
405,126	403,356	408,762	471,311	428,026	427,040	437,415	529,802	23
465,224	464,716	488,991	552,725	488,935	485 538	521,782	617,674	
340,137	229,644	1,818	82,886	4,848,747	5,416,287	4,049,818	4,998,777	24
15,093	10,305	294	5,580	210,600	240,986	154,439	189,646	
1,112,089	1,731,545	1,244,420	726,168	2,586,266	3,412,082	3,723,236	3,494,086	25
58,585	73,902	52,417	34,411	127,509	141,136	146,680	135,945	
946,370	2,101,107	1,607,267	1,443,432	3,605,025	5,516,671	4,479,846	4,399,200	26
48,558	103,539	87,390	85,210	170,531	270,104	231,792	239,012	
12,645,170	7,678,901	5,340,359	7,194,350	12,645,170	7,678,901	5,340,359	7,194,350	27
394,191	252,311	184,473	202,735	394,191	252,311	184,473	202,735	
16,546,176	11,958,440	9,507,411	1,869,063	17,714,397	14,823,999	12,792,632	5,450,840	28
273,613	197,005	149,727	35,975	294,084	238,721	198,969	87,569	

13.—Principal Imports into Canada for Consumption from United

No.	Item.		United Kingdom.			
			1927.	1928.	1929.	1930.
	VIII. Chemicals and Allied Products—concl.					
	Inorganic Chemicals, n.o.p.—concluded.					
1	Potash compounds	lb.	265,608	553,415	485,508	597,321
		$	35,268	70,860	67,500	67,667
2	Soda compounds	lb.	44,134,422	42,488,403	22,631,703	39,785,464
		$	769,125	726,966	554,519	667,520
3	Acid phosphate	lb.	94,396	97,974	73,349	60,907
		$	5,013	5,766	4,425	3,177
	Totals, Inorganic Chemicals, n.o.p.[1]	$	1,052,040	1,125,891	1,148,682	1,339,993
4	Glycerine	lb.	2,987,815	488,697	943,452	2,997,445
		$	642,190	89,822	102,469	260,443
	Totals, Chemicals and Allied Products[1]	$	**4,907,477**	**4,422,349**	**4,963,687**	**5,428,765**
	IX. Miscellaneous Commodities.					
	Amusement and Sporting Goods—					
5	Films, for motion pictures	ft.	366,008	1,099,249	1,184,645	553,084
		$	29,040	89,241	95,990	44,321
6	Toys and dolls	$	215,535	239,481	301,274	331,142
7	Other amusement and sporting goods	$	88,002	104,085	121,668	147,443
8	Brushes	$	139,965	162,266	185,725	237,188
9	Containers	$	1,366,864	1,645,947	2,150,539	2,689,481
	Household and Personal Equipment—					
10	Boots and shoes, with canvas uppers	pr.	8,420	6,436	1,236	1,971
		$	8,166	4,781	1,652	1,855
11	Boots and shoes, with felt uppers	pr.	355,162	338,255	421,188	279,109
		$	195,470	199,492	241,206	155,859
12	Buttons	$	33,313	31,575	32,811	32,172
13	Combs	$	63,844	42,461	43,740	52,726
14	Jewellery	$	108,590	131,405	191,045	152,461
15	Pocketbooks, etc	$	274,791	373,915	465,400	454,003
16	Refrigerators	No.	65	3	1	2
		$	634	456	10	36
17	Tobacco-pipes	$	383,073	454,614	325,889	292,365
	Totals, Household, etc.[1]	$	1,615,418	1,802,772	1,788,215	1,710,039
18	Mineral and aerated waters	$	9,676	11,075	12,882	14,141
	Musical Instruments—					
19	Phonographs and parts	$	27,013	20,546	25,875	17,154
20	Other musical instruments	$	95,896	68,332	66,605	57,012
21	Scientific and educational equipment	$	220,287	269,400	339,232	365,341
22	Ships and materials for, n.o.p	$	188,054	994,637	42,804	259,452
23	Vehicles, n.o.p	$	39,927	290,961	669,992	751,224
24	Works of art, n.o.p	$	239,048	359,400	859,827	899,439
	Miscellaneous Imports under Special Conditions—					
25	For army and navy	$	24,599	20,068	249,319	37,771
26	Re-imported	$	1,210,123	471,836	242,778	204,985
27	For exhibition	$	151,847	640,478	112,117	164,837
28	Ex-warehoused, for ships' stores[2]	$	211,409	279,153	237,200	239,367
	Totals, Miscellaneous Imports under Special Conditions[1]	$	1,910,863	1,715,151	1,041,826	833,253
29	Incubators and brooders	No.	3	3	1	4
		$	172	464	337	111
30	Pencils, lead	$	103,647	105,794	157,512	193,179
31	Precious stones	$	250,338	144,531	375,458	438,711
32	Settlers' effects	$	1,146,501	1,178,745	760,455	820,544
33	Waste paper, etc	cwt.	73,796	53,225	16,655	14,933
		$	165,430	160,035	22,001	26,116
34	Wax, vegetable and mineral, n.o.p	lb.	45,239	1,596,190	708,041	148,684
		$	2,406	78,530	32,888	9,164
	Totals, Miscellaneous Commodities[1]	$	**8,797,426**	**10,436,423**	**10,034,784**	**10,942,527**
	Grand Totals, Imports for Consumption	$	**163,939,065**	**186,435,824**	**194,041,381**	**189,179,738**

[1] Totals include other items not specified. [2] Exclusive of coal and fuel oil.

Kingdom, United States and All Countries, fiscal years 1927-1930—concluded.

United States.				All Countries.				No.
1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	
2,392,840	2,030,519	1,273,480	1,063,291	5,760,298	5,666,641	4,882,191	6,029,521	1
218,753	223,091	183,876	128,974	529,882	539,897	498,657	539,165	
165,587,875	180,723,823	264,733,793	293,633,251	215,575,523	229,737,273	298,171,039	350,146,896	2
2,218,946	2,240,744	2,817,717	3,327,603	3,163,121	3,181,366	3,665,775	4,410,621	
3,909,327	2,980,327	3,078,243	2,945,615	4,003,723	3,080,101	3,151,592	3,006,522	3
256,509	226,361	234,217	217,029	261,522	232,306	238,642	220,206	
4,446,031	4,467,078	5,119,106	5,679,408	6,373,499	6,502,895	7,067,140	8,108,607	
167,103	194,774	829,118	289,474	4,041,102	1,703,611	5,999,890	8,335,339	4
41,709	36,421	94,751	37,714	866,361	330,020	622,515	717,280	
20,623,830	**22,246,232**	**26,202,978**	**26,982,460**	**31,844,715**	**33,572,113**	**37,723,046**	**39,907,503**	
19,504,247	10,211,245	9,413,846	19,303,529	19,955,919	11,359,245	10,630,282	19,887,857	5
1,559,825	817,556	769,402	1,558,117	1,594,443	912,150	868,163	1,604,898	
755,871	838,159	1,095,592	1,077,504	1,940,842	2,118,497	2,606,890	2,691,408	6
788,803	1,538,940	640,309	1,412,761	895,696	1,679,492	889,905	1,634,982	7
240,070	248,076	286,880	327,546	640,469	631,714	686,056	849,226	8
1,230,657	1,380,182	2,045,029	2,223,764	3,468,459	4,088,123	5,479,789	6,285,755	9
64,051	62,586	106,826	56,755	73,303	69,703	108,066	58,930	10
56,755	44,052	64,546	39,577	65,579	49,393	66,199	41,659	
38,161	39,448	86,382	75,204	396,668	382,570	531,970	374,187	11
22,232	23,162	52,147	45,880	219,345	224,780	311,961	219,513	
299,473	239,263	245,188	192,514	645,117	537,756	531,755	514,537	12
65,008	41,480	32,346	30,050	266,923	249,768	249,421	258,391	13
1,027,366	1,145,239	1,407,889	1,336,677	1,475,461	1,857,592	2,605,322	2,435,869	14
366,941	360,855	457,189	451,632	859,714	1,058,209	1,288,276	1,343,761	15
3,670	5,220	10,855	18,892	3,735	5,223	10,857	18,894	16
462,196	672,416	1,319,011	1,913,555	462,830	672,872	1,319,180	1,913,591	
28,898	36,849	33,313	25,871	880,121	963,517	714,760	627,678	17
4,136,944	4,436,998	5,348,381	5,942,725	7,703,739	8,542,539	9,672,145	10,231,074	
61,923	73,013	74,956	79,479	189,427	212,753	223,845	241,719	18
948,607	926,807	1,250,085	1,541,385	1,004,120	978,616	1,327,915	1,597,821	19
1,086,679	970,360	1,022,843	1,093,393	1,531,831	1,398,960	1,498,312	1,533,052	20
3,491,237	3,465,771	3,638,284	3,992,265	4,076,410	4,147,272	4,458,096	4,956,519	21
2,347,921	835,883	847,770	1,044,833	2,680,313	1,854,915	1,056,163	1,372,046	22
871,585	1,417,976	2,642,720	2,396,569	919,927	1,717,477	3,344,764	3,249,798	23
381,128	557,203	1,139,656	561,735	859,267	1,177,808	2,384,998	1,909,505	24
394	1,121	5,657	1,024	46,233	27,900	273,899	47,172	25
2,439,825	3,002,010	2,581,163	2,539,217	4,253,163	3,772,002	3,213,565	2,925,907	26
5,098,145	2,097,876	3,130,350	3,201,979	5,261,486	2,827,730	3,295,342	3,487,016	27
3,108,553	197,304	173,561	211,224	4,238,499	542,236	490,917	519,630	28
12,243,600	6,862,180	9,060,691	10,510,354	16,069,135	9,580,637	11,295,210	12,011,104	
16,613	29,569	24,253	23,658	16,616	29,572	24,255	23,662	29
371,214	518,097	450,584	498,398	371,386	519,348	451,037	498,509	
500,251	515,731	561,198	504,778	803,874	813,838	933,553	938,806	30
70,695	80,234	85,953	61,801	473,938	521,303	837,477	810,466	31
6,334,403	7,736,887	9,343,313	10,113,018	7,797,518	9,192,370	10,390,922	11,181,203	32
888,658	858,126	724,644	1,028,727	966,452	916,693	754,889	1,049,075	33
1,117,254	996,546	773,638	559,069	1,306,080	1,192,546	804,925	600,767	
443,114	731,258	699,462	802,050	613,758	2,681,138	2,921,307	2,951,130	34
111,132	149,215	140,027	133,172	122,297	246,294	255,137	253,050	
44,973,689	**41,150,207**	**48,685,281**	**53,388,324**	**62,227,271**	**59,848,892**	**68,491,584**	**73,945,833**	
687,022,521	**718,896,270**	**868,012,229**	**847,442,037**	**1,030,892,505**	**1,108,956,466**	**1,265,679,091**	**1,248,273,582**	

14.—Imports (Dutiable and Free) and Exports of Canadian and Foreign Produce, by Main Classes, during the fiscal years ended Mar. 31, 1926-1930.

Class.	1926.	1927.	1928.	1929.	1930.
IMPORTS.	$	$	$	$	$
Agricultural and Vegetable Products (except chemicals, fibres and wood).					
Dutiable	123,051,487	133,362,597	153,762,736	153,519,512	152,962,368
Free	80,365,944	79,735,524	84,422,824	79,610,732	74,086,449
Totals for Group	**203,417,431**	**213,098,121**	**238,185,560**	**233,130,244**	**227,048,817**
Animals and Animal Products (except chemicals and fibres).					
Dutiable	24,698,634	26,091,583	30,002,698	36,074,696	44,479,161
Free	24,486,924	27,122,552	35,787,323	35,587,058	25,374,672
Totals for Group	**49,185,558**	**53,214,135**	**65,790,021**	**71,661,754**	**69,853,833**
Fibres, Textiles and Textile Products.					
Dutiable	117,444,241	127,110,568	127,163,911	130,364,826	121,103,721
Free	67,317,590	56,473,363	59,830,551	76,074,347	64,137,531
Totals for Group	**184,761,831**	**183,583,931**	**186,994,462**	**206,439,173**	**185,241,252**
Wood, Wood Products and Paper.					
Dutiable	24,916,363	29,387,075	31,819,999	37,321,028	39,108,066
Free	15,486,733	18,575,223	19,930,925	21,893,790	21,843,011
Totals for Group	**40,403,096**	**47,962,298**	**51,750,924**	**59,214,818**	**60,951,077**
Iron and Its Products.					
Dutiable	158,705,624	196,131,342	215,663,412	288,173,682	263,645,126
Free	22,491,176	33,298,143	43,911,608	58,442,128	53,233,501
Totals for Group	**181,196,800**	**229,429,485**	**259,575,020**	**346,615,810**	**316,878,627**
Non-Ferrous Metals and Their Products.					
Dutiable	32,429,812	36,795,977	39,401,249	53,174,136	66,238,269
Free	15,263,173	15,951,865	20,788,787	22,264,295	21,711,983
Totals for Group	**47,692,985**	**52,747,842**	**60,190,036**	**75,438,431**	**87,950,252**
Non-Metallic Minerals and Their Products (except chemicals).					
Dutiable	59,444,477	61,589,364	60,219,594	64,022,829	69,259,471
Free	79,589,463	95,195,343	92,829,844	102,941,402	117,236,917
Totals for Group	**139,033,940**	**156,784,707**	**153,049,438**	**166,964,231**	**186,496,388**
Chemicals and Allied Products					
Dutiable	15,391,094	17,425,263	17,842,190	19,271,781	20,555,008
Free	13,013,182	14,419,452	15,729,923	18,451,265	19,352,495
Totals for Group	**28,404,276**	**31,844,715**	**33,572,113**	**37,723,046**	**39,907,503**
Miscellaneous Commodities.					
Dutiable	26,969,938	32,003,244	34,174,439	39,152,940	41,879,284
Free	26,262,877	30,224,027	25,674,453	29,338,644	32,066,549
Totals for Group	**53,232,815**	**62,227,271**	**59,848,892**	**68,491,584**	**73,945,833**
Total Imports.					
Dutiable	583,051,670	659,897,013	710,050,228	821,075,430	819,230,474
Free	344,277,062	370,995,492	398,906,238	444,603,661	429,043,108
Totals, Imports	**927,328,732**	**1,030,892,505**	**1,108,956,466**	**1,265,679,091**	**1,248,273,582**
Duty Collected	**143,933,110**	**158,966,367**	**171,872,867**	**200,479,505**	**199,011,628**

14.—Imports (Dutiable and Free) and Exports of Canadian and Foreign Produce, by Main Classes, during the fiscal years ended Mar. 31, 1926-1930—concluded.

Class.	1926.	1927.	1928.	1929.	1930.
EXPORTS.	$	$	$	$	$
Agricultural and Vegetable Products (except chemicals, fibres and wood).					
Canadian Produce	606,058,672	574,994,162	555,110,598	646,514,058	384,635,751
Foreign Produce	1,811,768	4,347,294	8,837,492	10,453,444	8,061,858
Totals for Group	**607,870,440**	**579,341,456**	**563,948,090**	**656,967,502**	**392,697,609**
Animal and Animal Products (except chemicals and fibres).					
Canadian Produce	190,975,417	167,291,589	165,845,096	158,757,272	133,009,145
Foreign Produce	1,498,160	1,354,666	1,915,046	1,736,561	1,367,215
Totals for Group	**192,473,577**	**168,646,255**	**167,760,142**	**160,493,833**	**134,376,360**
Fibres, Textiles and Textile Products.					
Canadian Produce	8,940,046	7,665,563	10,904,073	9,678,019	9,066,226
Foreign Produce	1,320,099	1,375,778	1,808,756	1,755,418	1,481,775
Totals for Group	**10,260,145**	**9,041,341**	**12,712,829**	**11,433,437**	**10,548,001**
Wood, Wood Products and Paper.					
Canadian Produce	278,674,960	284,120,267	284,543,396	288,621,745	289,566,675
Foreign Produce	391,619	414,301	44,119	335,898	401,708
Totals for Group	**279,066,579**	**284,534,568**	**284,987,515**	**288,957,643**	**289,968,383**
Iron and Its Products.					
Canadian Produce	74,735,077	74,284,824	62,753,934	82,256,717	78,589,580
Foreign Produce	2,893,093	2,629,176	3,301,107	4,277,189	4,790,770
Totals for Group	**77,628,170**	**76,914,000**	**66,055,041**	**86,533,906**	**83,380,350**
Non-Ferrous Metals and Their Products.					
Canadian Produce	97,476,270	80,639,197	90,840,441	112,778,194	154,319,429
Foreign Produce	626,856	688,835	696,055	773,267	1,178,770
Totals for Group	**98,103,126**	**81,328,632**	**91,536,496**	**113,551,461**	**155,498,199**
Non-Metallic Minerals and Their Products (except chemicals).					
Canadian Produce	24,712,584	28,880,831	25,949,930	27,401,790	28,545,096
Foreign Produce	1,197,070	1,020,677	891,287	1,377,751	1,288,495
Totals for Group	**25,909,654**	**29,901,508**	**26,841,217**	**28,779,541**	**29,833,591**
Chemicals and Allied Products.					
Canadian Produce	17,354,389	16,203,760	17,365,516	19,438,064	22,468,462
Foreign Produce	690,867	709,953	422,818	384,805	563,645
Totals for Group	**18,045,256**	**16,913,713**	**17,788,334**	**19,822,869**	**23,032,107**
Miscellaneous Commodities.					
Canadian Produce	16,428,376	18,077,313	15,036,359	18,263,813	20,057,938
Foreign Produce	2,914,814	2,874,956	3,932,011	4,092,070	5,545,532
Totals for Group	**19,343,190**	**20,952,269**	**18,968,370**	**22,355,883**	**25,603,470**
Total Exports.					
Canadian Produce	1,315,355,791	1,252,157,506	1,228,349,343	1,363,709,672	1,120,258,302
Foreign Produce	13,344,346	15,415,636	22,248,691	25,186,403	24,679,768
Totals, Exports	**1,328,700,137**	**1,267,573,142**	**1,150,598,034**	**1,388,896,075**	**1,144,938,070**
Total Trade.					
Imports, merchandise	927,328,732	1,030,892,505	1,108,956,466	1,265,679,091	1,248,273,582
Exports, merchandise	1,328,700,137	1,267,573,142	1,250,598,034	1,388,896,075	1,144,938,070
Totals, External Trade	**2,256,028,869**	**2,298,465,647**	**2,359,554,500**	**2,654,575,166**	**2,393,211,652**

15.—External Trade of Canada, by Main Groups and Degree of Manufacture, According to Origin, fiscal year ended Mar. 31, 1939.

Origin.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
	$	$	$	$	$	$
Farm Origin—						
1.—Canadian Farm Products[1]—						
Field Crops—						
Raw materials	764,592	36,211,862	50,437,405	159,576,346	22,483,434	261,624,808
Partly manufactured	5,516	996,635	1,095,275	4,674	10,172	79,582
Fully of chiefly manufactured	38,440,815	10,903,004	56,153,632	20,235,527	25,392,255	88,795,291
Totals, Canadian Field Crops	39,210,923	48,111,501	107,686,312	179,816,547	47,885,861	350,499,681
Animal Husbandry—						
Raw materials	2,701,988	12,606,413	19,669,817	1,057,402	34,929,340	38,195,376
Partly manufactured	4,595,902	6,345,485	13,652,280	1,201,162	5,444,486	7,163,657
Fully or chiefly manufactured	32,807,115	11,479,944	70,227,703	24,137,116	3,874,101	32,493,800
Totals, Canadian Animal Husbandry	40,105,005	30,431,842	103,549,800	26,395,680	44,247,927	77,852,833
All Canadian Farm Products—						
Raw materials	3,466,580	48,818,275	70,107,222	160,633,748	57,412,774	299,820,184
Partly manufactured	4,601,418	7,342,120	14,747,555	1,205,836	5,454,658	7,243,239
Fully or chiefly manufactured	71,247,930	22,382,948	126,381,335	44,372,643	29,266,356	121,289,091
Totals, Canadian Farm Products	**79,315,928**	**78,543,343**	**211,236,112**	**206,212,227**	**92,133,788**	**428,352,514**
2.—Foreign Farm Products[1]—						
Field Crops—						
Raw materials	1,486,938	56,964,912	71,744,248	3,727	463	14,150
Partly manufactured	1,934,237	7,638,047	34,294,330	3,202	341,888	365,308
Fully or chiefly manufactured	30,751,170	33,498,736	95,321,040	7,008,160	1,348,385	36,368,799
Totals, Foreign Field Crops.	34,172,345	98,101,695	201,359,618	7,015,089	1,690,736	36,748,257
Animal Husbandry—						
Raw materials	194,344	6,289,000	9,430,247	-	-	-
Partly manufactured	29,812	110,494	201,097	-	-	-
Fully or chiefly manufactured	1,318,378	6,320,969	19,594,580	999	14,487	153,280
Totals, Foreign Animal Husbandry	1,542,534	12,720,463	29,225,924	999	14,487	153,280
All Foreign Farm Products—						
Raw materials	1,681,282	63,253,912	81,174,495	3,727	463	14,150
Partly manufactured	1,964,049	7,748,541	34,495,427	3.202	341,888	365,308
Fully or chiefly manufactured	32,069,548	39,819.705	114,915,620	7,009,159	1,362,872	36,522,079
Totals, Foreign Farm Products	**35,714,879**	**110,822,158**	**230,585,542**	**7,016,088**	**1,705,223**	**36,901,537**
3.—All Farm Products—						
All Field Crops—						
Raw materials	2,251,530	93,176,774	122,181,653	159,580,073	22,483,897	261,638,958
Partly manufactured	1,939,753	8,634,682	35,389,605	7,876	352,060	444,890
Fully or chiefly manufactured	69,191,985	44,401,740	151,474,672	27,243,687	26,740,640	125,164,090
Totals, All Field Crops	73,383,268	146,213,196	309,045,930	186,831,636	49,576,597	387,247,938

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[1] In this classification the expression "Canadian Farm Products" refers, in the case of exports, to commodities actually produced, in their original state, on Canadian farms. In the case of imports it covers all commodities of which the basic raw materials are such as Canadian farms produce. "Foreign Farm Products" covers, in both imports and exports, materials or commodities such as Canada does not produce in their original form, *e.g.*, cane sugar, tea, rubber, cotton, silk, etc.

15.—External Trade of Canada, by Main Groups and Degree of Manufacture, According to Origin, fiscal year ended Mar. 31, 1939.—concluded.

Origin.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
	$	$	$	$	$	$
Farm Origin—concluded.						
All Animal Husbandry—						
Raw materials	2,896,332	18,895,413	29,100,064	1,057,402	34,929,340	38,195,376
Partly manufactured	4,625,714	6,455,979	13,853,377	1,201,162	5,444,486	7,163,657
Fully or chiefly manufactured	34,125,493	17,800,913	89,822,283	24,138,115	3,888,588	32,647,080
Totals, All Animal Husbandry	41,647,539	43,152,305	132,775,724	26,396,679	44,262,414	78,006,113
All Farm Products—						
Raw materials	5,147,862	112,072,187	151,281,717	160,637,475	57,413,237	299,834,334
Partly manufactured	6,565,467	15,090,661	49,242,982	1,209,038	5,796,546	7,608,547
Fully or chiefly manufactured	103,317,478	62,202,653	241,296,955	51,381,802	30,629,228	157,811,170
Totals, Farm Origin	**115,630,807**	**189,365,591**	**441,821,654**	**213,228,315**	**93,839,011**	**465,254,651**
Wild Life Origin—						
Raw materials	535,130	6,412,977	7,457,720	10,312,929	7,737,617	19,829,324
Partly manufactured	106,192	1,481,034	2,201,932	3,395	57,282	104,180
Fully or chiefly manufactured	130,660	264,840	477,639	18,314	89,643	135,609
Totals, Wild Life Origin	**771,982**	**8,158,851**	**10,137,291**	**10,334,638**	**7,884,542**	**20,069,113**
Marine Origin—						
Raw materials	9,085	758,884	1,201,895	510,939	11,069,506	11,833,992
Partly manufactured	-	-	-	-	-	-
Fully or chiefly manufactured	262,385	697,597	2,928,496	3,667,040	5,260,278	25,426,979
Totals, Marine Origin	**271,476**	**1,456,481**	**4,130,391**	**4,177,979**	**16,329,784**	**37,260,971**
Forest Origin—						
Raw materials	4,077	1,311,923	1,669,105	92,713	21,223,597	22,578,263
Partly manufactured	49,222	15,634,537	15,829,397	9,702,061	76,207,790	101,111,066
Fully or chiefly manufactured	5,216,850	37,850,077	46,608,458	11,666,240	140,246,541	165,934,006
Totals, Forest Origin	**5,270,149**	**54,796,537**	**64,106,960**	**21,461,014**	**237,677,928**	**289,623,335**
Mineral Origin—						
Raw materials	5,582,367	104,595,235	126,666,326	4,218,987	62,811,189	75,278,164
Partly manufactured	1,471,377	22,737,501	25,796,537	11,161,203	60,737,954	102,805,762
Fully or chiefly manufactured	38,082,743	392,881,663	458,799,762	11,841,214	20,824,264	102,320,300
Totals, Mineral Origin	**45,136,487**	**520,214,399**	**611,262,625**	**27,221,404**	**144,373,407**	**280,404,226**
Mixed Origin—						
Raw materials	-	-	-	-	-	-
Partly manufactured	440,901	2,015,572	2,899,252	286,013	1,216,533	1,632,278
Fully or chiefly manufactured	22,257,942	71,434,696	113,915,409	5,036,602	13,728,558	26,014,328
Totals, Mixed Origin	**22,698,843**	**73,450,268**	**116,814,661**	**5,322,615**	**14,945,091**	**27,646,606**
Recapitulation—						
Raw materials	11,278,521	225,151,206	288,276,763	175,773,043	160,255,146	429,354,077
Partly manufactured	8,633,159	56,959,305	95,970,100	22,361,710	144,016,105	213,261,833
Fully or chiefly manufactured	169,268,058	565,331,526	864,026,719	83,611,212	210,778,512	477,642,392
Grand Totals	**189,179,738**	**847,442,037**	**1,248,273,582**	**281,745,965**	**515,049,763**	**1,120,258,302**

16.—Summary of the External Trade of Canada, by Main Groups, Compiled on a Classification According to Purpose, fiscal year ended Mar. 31, 1930.

Group.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
	$	$	$	$	$	$
Foods, Beverages and Smokers' Supplies.						
Foods	6,026,852	65,756,323	141,715,936	197,075,175	59,422,721	388,876,403
Animals for food	1,356	145,987	147,343	–	10,769,726	10,950,737
Breadstuffs	391,061	14,171,860	21,833,713	160,083,960	8,651,376	273,051,732
Grains	107,093	11,871,976	19,146,176	141,578,288	8,487,256	222,375,005
Flour and other milled products	39,120	1,349,593	1,411,249	16,113,477	14,852	47,967,116
Flour and meal	34,018	1,332,986	1,389,521	16,113,477	14,852	47,967,116
Other milled products	5,102	16,607	21,728	–	–	–
Bakery products and prepared foods	244,848	950,291	1,276,288	2,392,195	149,268	2,709,611
Other farinaceous substances	216,384	381,641	802,397	–	–	–
Cocoa and chocolate	308,299	396,282	3,504,185	–	–	–
Fish	255,201	1,095,550	3,416,667	4,107,761	14,518,519	34,714,186
Fresh or frozen	1,050	560,494	860,856	454,126	10,825,680	11,484,241
Dried, salted, smoked or pickled	119,313	74,746	852,449	27,677	2,324,676	10,152,994
Canned or otherwise preserved	134,838	460,310	1,703,362	3,625,958	1,368,163	13,076,951
Fruits	846,306	26,999,463	33,814,787	6,982,521	1,076,401	9,340,726
Fresh	289,123	20,726,166	23,778,878	6,674,878	1,055,161	8,697,153
Dried	365,117	3,764,748	5,808,878	19,283	6,132	312,331
Canned or otherwise preserved	192,036	2,508,549	4,227,031	288,360	15,108	331,242
Meats	251,871	5,634,979	7,599,473	7,169,425	6,446,315	15,030,671
Lard, lard compound and substitutes	1,149	125,431	156,428	139,281	6,439	206,313
Milk and its products	474,287	253,065	15,151,791	16,859,942	7,184,449	27,463,130
Milk and cream, fresh	–	17,419	18,105	–	5,378,994	5,379,174
Milk preparations and products	474,287	235,646	15,133,686	16,859,942	1,805,455	22,083,956
Nuts	218,006	1,512,154	5,095,109	13,384	54	13,938
Oils	1,044,894	826,002	3,634,618	–	–	–
Salt	205,268	496,286	897,925	–	6,001	75,956
Spices	552,846	242,811	1,499,001	–	–	–
Sugar and sugar products	727,555	1,430,810	27,987,156	125,868	2,648,605	4,798,712
Vegetables	332,791	9,196,444	11,020,339	957,874	7,547,813	11,240,747
Vinegar	12,403	79,937	98,875	–	17,079	17,801
Yeast	688	396,303	399,406	–	–	–
Other articles of food	186,487	2,371,318	4,656,723	635,159	549,944	1,971,754
Beverages and infusions	43,040,051	1,291,410	63,222,639	343,184	18,870,491	28,747,104
Beverages, alcoholic	37,508,162	8,814	45,026,487	130,688	18,846,297	28,444,238
Beverages, non-alcoholic	45,660	472,755	704,814	212,496	7,058	265,522
Lime and other fruit juices	31,519	393,276	463,095	210,709	3,818	252,758
Mineral waters	14,141	79,479	241,719	1,787	3,240	12,764
Infusions	5,486,229	809,841	17,491,338	–	17,136	37,344
Cocoa and chocolate	12,461	80,456	147,240	–	–	–
Coffee and chicory	654,762	691,118	6,649,719	–	17,136	37,344
Tea	4,819,006	38,267	10,694,379	–	–	–
Smokers' supplies	1,250,329	373,070	2,436,635	842	10,732	30,077
Tobacco, manufactured	710,102	297,007	1,149,738	842	10,732	30,077
Other smokers' supplies	540,227	76,063	1,286,897	–	–	–
Personal and Household Utilities.						
Books, printed matter, stationery and educational supplies	3,997,135	16,858,208	22,576,630	539,454	1,139,086	2,327,038
Books, pamphlets, printed matter and maps	2,199,156	12,815,071	15,616,868	184,132	950,396	1,452,328
Books	1,848,089	4,547,562	6,906,073	20,497	131,107	188,052
Charts and maps	11,899	40,349	52,804	163,635	819,289	1,264,276
Newspapers	49,604	4,213,094	4,270,264			
Printed matter, n.o.p.	289,564	4,014,066	4,387,727			
Stationery	591,637	1,426,878	2,392,006	265,009	73,310	635,425
Educational equipment (except text books)	131,033	801,721	1,044,589	62,213	22,018	104,355
Works of art	1,075,309	1,814,538	3,523,167	28,100	93,362	134,930

16.—Summary of the External Trade of Canada, by Main Groups, Compiled on a Classification According to Purpose, fiscal year ended Mar. 31, 1930—continued.

Group.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
	$	$	$	$	$	$
Personal and Household Utilities—concluded.						
Clothing	11,456,220	10,799,952	29,765,565	3,517,293	450,418	12,740,705
Blouses and shirtwaists	1,507	12,240	16,333	-	-	-
Boots and shoes (excluding materials)	1,124,303	2,212,960	3,624,868	3,382,747	285,572	10,360,118
Gloves and mitts	578,954	125,125	3,020,029	62,736	2,364	293,883
Handkerchiefs	1,511,654	37,576	2,257,884	-	-	-
Hats and caps (excluding materials)	907,054	936,787	2,909,915	19	1,780	89,943
Hosiery	2,703,656	1,683,397	4,877,671	1,500	651	826,425
Shirts	48,650	95,615	156,413	-	-	-
Underwear	415,584	103,209	594,443	32,072	2,413	198,840
Miscellaneous clothing	4,164,858	5,593,043	12,308,009	38,219	157,638	971,496
Household utilities	12,397,332	17,754,604	36,330,997	2,422,130	334,730	7,989,272
Bedding	1,656,118	343,923	2,214,680	1,561	3,162	47,217
Cutlery	377,670	170,775	711,350	-	-	-
Floor coverings	1,858,312	655,548	4,205,908	2,986	7,037	166,360
Wool carpets	1,399,621	274,922	3,244,859	2,986	7,015	76,028
Other floor coverings	458,691	380,626	961,049	-	22	90,332
Furniture	663,500	4,666,773	5,716,401	134,698	42,125	532,094
Glassware, chinaware and pottery	3,165,768	1,159,252	6,603,163	450	19,610	26,968
Glassware	84,893	678,459	1,114,983	-	-	-
Chinaware and pottery	3,080,875	480,793	5,488,180	450	19,610	26,968
Household linen	1,329,428	98,358	1,471,579	-	-	-
Household machinery	423,590	2,646,976	3,076,756	1,510,332	6,498	5,426,972
Kitchen equipment	248,128	4,310,462	4,727,798	24,678	78,717	323,491
Soap	163,884	1,002,463	1,312,631	624,628	378	731,614
Window curtains and fixtures	452,944	328,303	1,043,126	-	-	-
Miscellaneous household utilities	2,057,990	2,371,771	5,247,605	122,797	177,203	734,556
Jewellery, personal ornaments and timepieces	1,645,135	2,694,882	10,106,020	69,520	23,466	217,869
Jewellery and personal ornaments	1,561,694	1,469,736	6,610,361	1,815	3,280	9,024
Timepieces	83,441	1,225,146	3,495,659	67,705	20,186	208,845
Personal utilities	1,180,000	2,141,173	5,016,085	66,401	-	537,420
Toilet articles	541,123	1,234,567	2,749,645	66,401	-	537,420
Other personal utilities	638,877	906,606	2,266,440	-	-	-
Recreation equipment and supplies	842,693	6,382,342	8,936,484	2,077,704	2,267,850	5,542,963
Musical instruments and accessories	118,064	3,000,989	3,509,454	8,883	204,706	488,715
Picture machines and accessories	45,159	1,787,389	1,849,332	2,006,728	1,928,730	4,790,619
Equipment for indoor games	106,457	61,213	185,700	-	-	-
Miscellaneous articles for amusement	573,013	1,532,751	3,391,998	62,093	134,414	263,629
Electrical Energy.						
Electrical energy	-	96,693	96,693	-	4,025,233	4,028,154
Electrical Equipment.						
Batteries	314,663	413,646	730,529	32,997	43,426	761,513
Dynamos and motors	1,161,636	5,695,149	7,144,305	6,724	17,805	41,249
Lighting equipment	48,483	1,753,953	1,977,512	-	-	-
Transmission equipment	248,690	1,507,531	1,766,605	150	3,909,110	4,054,245
Other electric apparatus	1,249,918	27,675,895	29,295,413	373,181	63,691	2,190,842
Producers' Equipment.						
Abrasives	188,087	3,970,030	4,227,287	323,143	3,500,302	3,879,748
Containers, wrapping and packing materials	3,506,496	10,195,004	16,342,896	365,875	255,523	2,623,410
Bags and sacks	102,905	530,971	720,346	50,551	8,321	191,699
Barrels	23,600	596,837	629,673	-	6,320	35,648
Cordage (except binder twine)	124,600	224,818	376,356	16,806	3,715	124,282
Wrapping paper	170,267	860,945	1,424,817	291,741	18,198	1,655,568
Miscellaneous containers, etc	3,085,064	7,981,433	13,191,704	6,777	218,969	616,213

16.—Summary of the External Trade of Canada, by Main Groups, Compiled on a Classification According to Purpose, fiscal year ended Mar. 31, 1930—continued.

Group.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
Producers' Equipment—concluded.	$	$	$	$	$	$
Farm equipment	612,452	31,407,269	34,027,184	557,657	7,856,938	23,697,975
Agricultural implements and machinery	178,634	29,413,634	30,160,994	459,143	4,132,996	18,414,283
Dairying equipment	18,918	1,004,779	1,299,819	–	642,642	670,565
Engines for farm purposes	93,330	15,160,221	15,454,656	–	14,154	17,595
Planting and tillage implements	5,471	3,972,691	4,011,236	71,553	1,406,551	6,782,021
Harvesting equipment	7,813	5,455,427	5,497,615	134,939	767,037	5,911,818
Seed separation machinery	–	2,638,164	2,639,647	1,516	316,440	577,953
Other agricultural implements and machinery, and parts of	53,102	1,182,352	1,258,021	251,135	986,172	4,454,331
Animals (except animals for food)	252,395	778,077	1,081,156	66,671	3,221,670	4,542,324
Animals for improvement of stock	208,579	380,884	621,744	54,842	915,599	2,005,653
Other animals	43,816	397,193	459,412	11,829	2,306,071	2,536,671
Fencing materials	2,643	278,601	394,837	31,156	474,763	693,491
Harness and horse equipment	99,748	120,773	225,901	326	4,140	12,992
Plants, trees and shrubs	78,921	317,786	1,665,787	361	23,369	34,885
Miscellaneous farm equipment	111	498,398	498,509	–	–	–
Industrial equipment	7,139,673	71,250,876	81,252,833	993,107	947,306	4,486,690
Fisheries equipment	1,325,786	1,384,914	2,917,209	–	53,385	53,553
Industrial and trade machinery (except mining, electrical and printing machinery, boilers and engines)	3,256,201	45,255,711	49,967,815	481,561	747,434	2,728,514
Construction machinery	8,819	2,875,245	2,884,064	5,102	364,659	379,046
Office or business machinery and accessories	13,184	2,826,228	2,848,437	175,977	16,251	473,185
Metal-working machinery	368,821	6,920,770	7,430,685	16,944	14,843	47,566
Pulp and paper-making machinery and accessories	39,892	1,213,541	1,259,567	112,931	12,568	653,514
Textile and cordage machinery	948,748	4,918,056	6,489,669	–	–	–
Other industrial machinery	1,876,737	26,501,871	29,055,393	170,607	339,113	1,175,203
Mining and metallurgical equipment	718,786	10,886,416	11,776,340	–	–	–
Printing equipment	317,385	4,330,190	4,867,539	2,540	10,067	15,146
Photographic equipment	76,292	1,429,363	1,675,033	265	3,424	8,266
Tools, n.o.p.	324,657	2,412,356	3,192,449	32,623	51,982	284,800
Transmission equipment (except electrical)	191,086	747,130	981,589	128,375	29,217	631,762
Miscellaneous industrial equipment	929,480	4,804,796	5,874,859	347,743	51,797	764,649
Light, heat and power equipment and supplies (except electrical and transportation)	6,082,148	86,936,551	94,851,328	209,419	3,210,797	6,950,277
Boilers and engines (except for farms)	630,578	4,934,778	5,615,730	2,463	6,550	285,957
Fuel	5,371,240	78,942,295	85,784,012	188,145	3,071,767	5,835,414
Coal	5,307,503	50,819,351	56,812,418	187,912	1,720,688	3,998,692
Fuel oils	60	21,485,744	22,249,369	233	468,439	950,130
Other fuels	63,677	6,637,200	6,722,225	–	882,640	886,592
Illuminants	1,599	583,880	616,445	1,430	130,778	769,865
Other light, heat and power equipment	78,731	2,475,598	2,835,141	17,381	1,702	59,041
Lubricating oils and greases	299,082	5,550,099	5,852,221	12,552	42,326	122,054

16.—Summary of the External Trade of Canada, by Main Groups, Compiled on a Classification According to Purpose, fiscal year ended Mar. 31, 1930—continued.

Group.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
	$	$	$	$	$	$
Producers' Materials.						
Building and construction materials	4,039,258	41,084,014	50,361,466	8,034,367	51,240,491	71,862,195
Asphalt and its products	771	958,986	961,370	–	–	–
Brick and tile	720,016	3,312,759	4,251,681	732	58,997	69,986
Cement, lime and plaster	59,471	436,570	519,158	7,991	440,765	825,940
Glass for building	734,287	318,519	3,319,570	–	–	–
Structural iron	613,690	12,773,168	14,344,324	–	400	347,158
Iron piping	280,614	3,527,286	3,923,705	171,306	419,839	2,202,769
Nails	11,686	72,843	110,874	6,992	13,387	351,035
Lumber and timber	14,077	9,083,608	9,149,988	6,932,779	48,728,248	64,138,276
Paints and painters' materials	853,192	4,133,966	5,777,399	124,604	51,922	503,453
Paints and varnishes	221,342	719,498	965,826	123,036	15,161	455,840
Painters' materials	631,850	3,414,468	4,811,573	1,568	36,761	47,613
Stone, marble and slate	111,645	1,336,221	1,762,179	3,419	228,745	233,825
Railway materials	13,862	2,085,704	2,163,841	340,127	727,849	1,763,559
Miscellaneous construction materials	625,947	3,014,384	4,077,377	446,417	570,339	1,426,194
Farm materials	867,603	6,288,424	13,548,242	9,811,918	14,957,381	30,546,290
Fertilizers	76,728	3,493,840	5,287,476	–	7,243,606	8,806,825
Fodders	5,167	739,641	753,271	9,404,360	5,758,858	18,718,697
Seeds	342,666	1,323,196	5,060,428	375,300	989,622	1,518,347
Miscellaneous farm materials	443,042	731,747	2,447,067	32,258	965,295	1,502,421
Manufacturers' materials	68,501,489	266,848,955	402,604,798	44,198,041	333,198,111	438,868,026
For explosives and ammunition	190,860	264,868	857,978	–	–	–
For textiles, clothing and cordage	47,478,204	55,756,210	138,250,471	272,188	1,360,230	2,126,451
Fibres for spinning or cordage manufacture	5,933,727	33,858,273	44,591,413	223,878	1,320,367	1,581,554
Yarn for weaving or knitting	7,508,737	2,483,167	11,789,701	–	–	–
Piece goods for clothing	32,699,917	14,784,447	73,434,700	1,682	15,403	176,254
Thread for sewing	699,578	532,188	1,335,090	–	–	–
Buttons and materials for (except shoe buttons)	30,878	227,599	604,384	5,240	578	6,788
Corset materials	2,434	121,813	124,504	–	–	–
Hat materials	354,278	704,641	2,650,488	–	–	–
Other textile, clothing and cordage materials	248,655	3,044,082	3,720,191	41,388	23,882	361,855
For dyeing and tanning	159,651	2,507,103	3,560,380	–	8,660	9,139
For fur and leather goods	2,041,382	20,119,269	25,590,993	11,530,226	20,420,824	33,417,007
Furs	737,068	8,794,300	10,864,526	10,317,588	7,660,564	18,810,491
Hides	128,689	6,267,935	8,402,075	8,334	7,602,486	7,760,937
Leather	1,170,663	4,679,656	5,919,500	1,204,304	5,157,774	6,845,579
Other materials	4,962	377,378	404,892	–	–	–
For smelters and metal refineries	278,363	8,598,393	11,331,685	3,460,180	76,862,946	88,027,584
For foundries	540,717	5,087,107	5,873,732	7,219,720	8,880,221	25,860,898
For machinery, implements, tools and cutlery	125,650	6,641,783	6,828,221	49,743	26,176	119,642
For electrical goods	11,636	818,733	890,126	–	–	–
For furniture and wood wares	39,723	6,011,958	6,151,170	940,767	65,836	1,932,088
Cabinet woods	33,390	4,024,219	4,122,360	163,231	34,481	246,714
Other materials	6,333	1,987,739	2,028,810	777,536	31,355	1,685,374
For musical instruments	24,375	178,818	240,146	4,963	55	157,566
For wood-pulp	230,060	4,269,244	4,601,427	–	13,860,209	13,860,209
For paper-making	16,634	1,079,575	1,101,952	1,693,883	38,773,789	46,630,232
For paper goods, printing and bookbinding	443,265	3,869,787	4,454,884	9,750,350	127,515,439	147,919,869
For rubber working industries	38,333	16,010,934	16,761,504	3,202	211,724	231,658
For vehicles (not including complete parts)	444,434	1,925,815	2,370,249	–	–	–
For vessels	684,358	2,638,725	3,471,707	187	23,704	27,453
Other materials for chemical-using industries	1,344,849	4,777,246	7,528,715	3,022,534	5,438,101	10,529,791

16.—Summary of the External Trade of Canada, by Main Groups, Compiled on a Classification According to Purpose, fiscal year ended Mar. 31, 1930—concluded.

Group.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
Producers' Materials—concluded.	$	$	$	$	$	$
Other materials for metal-working industries......	10,440,807	55,538,176	70,090,280	2,855,337	21,229,830	40,281,001
Other materials for wood-using industries.........	14	344,034	588,316	515,424	3,032,815	4,735,650
Other manufacturers' materials..................	3,968,174	70,381,177	92,060,862	2,879,337	15,487,552	23,001,788
Transportation.						
Vehicles....................	2,170,789	84,785,211	87,292,630	3,516,400	415,687	56,360,988
Automobiles and parts....	500,244	76,892,309	77,567,685	3,059,360	180,118	37,606,387
Other motor vehicles, not for railways.............	116,777	623,873	760,047	300	950	1,400
Bicycles and tricycles.....	176,869	40,629	224,105	1,212	360	26,001
Railway rolling stock.....	115,297	2,966,497	3,089,322	385	14,084	142,962
Locomotives...........	36,172	487,112	523,284	20	5,109	111,065
Motor cars..............	2,303	95,242	97,545	365	8,975	31,897
Other cars.............	76,822	2,384,143	2,468,493			
Other vehicles...........	1,246,240	3,929,358	5,289,642	1,560	185,222	431,013
Rubber tires...............	15,362	332,545	361,829	453,583	34,953	18,153,225
Vessels....................	243,689	1,380,191	1,707,715	2,214	83,957	901,269
Ships and boats...........	97,667	838,114	1,003,542	2,214	83,957	901,269
Equipment for ships......	146,022	542,077	704,173	–	–	–
Medical Supplies.						
Alkaloids and their salts....	111,985	107,968	310,610	–	–	–
Biological medicines........	5,068	423,083	604,819	–	–	–
Drugs, crude...............	4,905	239,391	307,728	169,043	562,032	803,462
Medicinal and pharmaceutical preparations.........	884,439	1,890,127	3,458,858	335,224	17,683	779,625
Oils and gums, chiefly for medicinal use.............	164,899	119,975	512,383	–	106,684	109,416
Medical, surgical and dental equipment and materials..	302,091	2,775,892	3,377,712	–	–	–
Arms, Explosives and War Stores.						
Arms......................	122,521	260,093	548,467	100	–	180
Military equipment.........	37,771	1,024	47,172	–	–	–
Ammunition and explosives.	91,642	669,322	797,372	568	498	271,710
Goods for Exhibition.						
Animals....................	7,000	1,558,629	1,565,629	150	273,441	277,959
Other goods................	164,837	3,201,979	3,487,016	–	–	–

17.—Value of Total Exports, Imports Entered for Consumption, and Duty Collected thereon, at certain Ports and by Provinces, during the fiscal years ended Mar. 31, 1929 and 1930.

NOTE.—The values of imports and exports at the several ports of entry given in the following table indicate that merchandise of the value stated was entered inwards, or passed outwards, at the ports mentioned, but do not imply that the imports were all for consumption at such ports or that the exports originated there.

Province and Port.	1929.			1930.		
	Total Exports.	Imports for Consumption.	Duty Collected.	Total Exports.	Imports for Consumption.	Duty Collected.
P. E. Island.	$	$	$	$	$	$
Totals, P. E. Island......	**956,112**	**1,808,713**	**159,533**	**2,521,560**	**1,604,792**	**178,759**
Nova Scotia.						
Halifax....................	42,179,169	22,480,801	2,571,463	45,894,686	25,940,282	2,505,217
North Sydney.............	2,974,720	403,599	33,405	3,596,706	433,232	26,171
Sydney....................	2,866,274	2,988,736	245,236	3,008,406	3,737,388	331,350
Yarmouth.................	2,656,805	1,634,419	67,903	2,855,560	1,646,477	74,161
Totals, Nova Scotia[1]......	**57,679,784**	**32,821,746**	**3,512,967**	**62,579,160**	**37,429,661**	**3,594,210**

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[1] Include other smaller ports.

17.—Values of Total Exports, Imports Entered for Consumption, and Duty Collected thereon, at certain Ports and by Provinces, during the fiscal years ended Mar. 31, 1929 and 1930—continued.

Province and Port.	1929. Total Exports.	1929. Imports for Consumption.	1929. Duty Collected.	1930. Total Exports.	1930. Imports for Consumption.	1930. Duty Collected.
New Brunswick.	$	$	$	$	$	$
Fredericton	–	2,334,454	778,097	–	2,300,519	835,794
McAdam Jct	9,124,181	336,559	25,200	11,238,213	347,108	39,817
Moncton	282,982	2,344,059	445,532	284,112	2,377,906	450,216
Saint John	55,861,050	15,691,713	2,175,411	41,395,708	16,586,341	2,210,096
Woodstock	5,045,485	994,733	134,151	6,406,048	778,921	94,598
Totals, New Brunswick[1]	**72,851,601**	**24,764,939**	**3,793,844**	**61,206,43[illegible]**	**26,239,284**	**4,043,867**
Quebec.						
Athelstan	28,389,612	3,166,908	189,867	24,312,858	3,153,396	162,922
Chicoutimi	3,433,980	3,502,384	239,768	8,091,989	2,973,974	194,872
Coaticook	11,434,269	438,517	31,492	9,680,612	706,616	30,952
Drummondville	–	4,879,869	430,471	–	4,298,035	383,860
Hull	–	2,829,280	240,417	–	2,484,225	215,970
Montreal	235,665,267	245,524.953	42,773,672	161,577,392	255,769,232	44,901,509
Quebec	22,043,070	17,567,179	2,780,728	12,772,683	17,031,590	2,596,950
Rock Island	8,230,516	1,966,950	105,536	7,082,513	1,788,614	117,238
St. Armand	23,055,644	511,533	87,985	27,811,139	577,064	45,529
St. Hyacinthe	–	2,944,027	175,304	–	3,668,025	252,277
St. Johns	60,692,647	10,508,731	937,060	70,542,168	10,706,703	1,000,424
Shawinigan Falls	–	4,782,860	265,172	–	5,531,256	295,841
Sherbrooke	530,865	10,707,835	1,055,352	416,119	10,195,484	1,081,921
Sutton	16,443,180	364,808	56,198	15,233,001	397,259	53.284
Three Rivers	5,006,672	4,781,299	417,746	5,624,968	5,017,460	421,370
Valleyfield	–	3,099,108	64,803	–	2,925,978	289,307
Totals, Quebec[1]	**417,586,970**	**320,549,122**	**50,159,07[illegible]**	**345,602,133**	**330,429,593**	**52,344,646**
Ontario.						
Amherstburg	2,986,215	1,715,490	320,871	7,000,824	2,067.967	473,944
Belleville	193,305	3,433,339	916,141	285,249	2,471,257	591,016
Brantford	9,635	8,499,420	641,483	14,945	7,906,625	634,461
Bridgeburg	84,000,499	6,854,904	838,160	86,333,131	6,091,676	897,943
Brockville	763,469	4,002,393	169,583	635,408	6,471,581	130,716
Chatham	513,779	7,169,859	1,254,533	603,897	4,778,380	827,045
Cobourg	1,912,728	2,160,499	262,326	1,758,858	2,310,133	341,246
Cornwall	6,704,731	4,030,250	242,505	4,778,612	2,853,511	210,340
Fort Frances	18,834,953	1,826,944	314,526	19,527,358	1,589,979	281,463
Fort William	89,937,374	10,676,310	1,553,774	36,599,237	10,070,138	1,458,320
Galt	1,765	6,825,195	533,229	669	6,679,742	554,524
Guelph	–	5,134,217	484,537	–	4,916,837	470,708
Hamilton	4,276,650	52,979,221	5,638,119	3,347,010	53,449,526	6,442,157
Kingston	304,525	2,915,263	240,504	428,038	2,125,824	235,266
Kitchener	–	14,949,214	1,183,114	–	13,512,517	1,213,375
London	–	13,402,079	1,791,383	–	13,984,241	2,062,855
Niagara Falls	100,057,137	13,123,150	1,764,337	104,066,323	13,044,414	1,962,118
North Bay	419,882	3,905,446	567,786	302,002	3,429,840	513,056
Oshawa	435	28,490,967	6,969,833	378	17,456,142	4,330,603
Ottawa	–	17,671,808	3,019,382	–	16,431,226	3,095,253
Parry Sound	53,611	1,536,940	284,779	419,443	1,468,726	292,790
Peterborough	1,053	9,317,442	1,339,973	860	9,753,757	1,497,178
Port Arthur	127,218,858	2,777,869	318,000	77,564,504	1,875,892	229.143
Prescott	10.966,708	3,659,184	487,316	9,354,916	3,663,540	530,111
St. Catharines	293,488	6,646,914	805,186	102,565	7,669,772	1,115,527
St. Thomas	44,341	3,097,749	483,627	169,974	3,040,212	498,269
Sarnia	41,634,896	17,750,663	972,704	41,156,704	21,338,741	995,832
Sault Ste. Marie	8,348,659	7,543,725	906,740	9,246,511	8,417,534	1,141,672
Stratford	–	3,146,448	398,837	–	3,083,051	373,178
Sudbury	–	2,670,456	242,179	–	4,861,667	576,437
Toronto	1,532,191	266,865,149	46,925,053	1,601,804	266,657.235	47,902,777
Wallaceburg	1,732.602	3,104,047	372,000	770,507	3,064,157	700,443
Welland	3,020,439	15,055,597	906,477	1,482,267	16,787,485	971,779
Windsor	63,206,373	83,390,508	18,536,365	54,634,546	65,569,470	14,211,512
Woodstock	8,793	3,337,033	248,283	7,808	2,938,357	230,074
Totals, Ontario[1]	**570,361,420**	**657,319,700**	**103,680,852**	**463,410,894**	**628,643,602**	**99,724,275**
Manitoba.						
Brandon	35,547	2,489,530	249,661	56,569	2,427,901	269,481
Emerson	16,968,551	1,304,058	86,415	15,822,644	1,528,656	173,956
Winnipeg	60,684	54,237,509	10,359,745	23,305	48,702,403	9,483,040
Totals, Manitoba[1]	**17,084,508**	**59,688,197**	**10,881,714**	**15,918,097**	**54,796,610**	**10,249,653**

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[1] Include other smaller ports.

17.—Values of Total Exports, Imports Entered for Consumption, and Duty Collected thereon, at certain Ports and by Provinces, during the fiscal years ended Mar. 31, 1929 and 1930—concluded.

Province and Port.	1929.			1930.		
	Total Exports.	Imports for Consumption.	Duty Collected.	Total Exports.	Imports for Consumption.	Duty Collected.
Saskatchewan.	$	$	$	$	$	$
Moose Jaw	199,275	6,072,757	656,284	86,825	5,727,287	626,816
North Portal	10,416,696	1,314,980	83,774	10,590,321	847,382	91,395
Regina	435,654	20,455,284	3,595,143	50,794	16,919,867	3,034,947
Saskatoon	-	9,291,872	1,033,738	-	7,174,489	956,959
Totals, Saskatchewan[1]	**11,051,625**	**37,852,714**	**5,449,644**	**10,727,948**	**31,390,356**	**4,787,912**
Alberta.						
Calgary	-	18,991,749	3,189,870	-	24,025,002	3,662,600
Edmonton	-	10,978,474	2,083,760	-	9,686,420	1,943,999
Lethbridge	1,211,160	5,417,043	373,017	1,141,670	4,406,266	361,854
Medicine Hat	-	960,961	101,926	-	803,458	90,974
Totals, Alberta	**1,211,160**	**36,348,227**	**5,748,579**	**1,141,670**	**38,921,146**	**6,059,427**
British Columbia.						
Abbotsford	4,809,673	491,472	60,850	6,134,566	402,131	53,016
Cranbrook	1,028,368	631,303	82,264	890,681	836,719	74,618
Fernie	1,148,119	391,374	97,992	843,072	290,750	48,942
Nanaimo	7,278,523	522,334	62,538	7,489,295	432,520	58,057
New Westminster	17,706,925	2,429,060	436,562	19,833,478	3,190,362	562,665
Prince Rupert	19,741,484	1,076,922	182,872	11,084,734	1,409,531	252,935
Vancouver	181,222,494	77,582,326	13,545,023	127,214,949	79,447,707	14,122,354
Victoria	4,128,786	8,799,665	2,172,588	4,652,571	9,790,042	2,276,856
Totals, British Columbia[1]	**237,583,590**	**94,041,183**	**16,978,615**	**178,551,135**	**98,271,217**	**17,898,924**
Yukon Territory.						
Totals, Yukon	**2,529,395**	**445,353**	**105,644**	**3,279,051**	**513,345**	**122,338**
Prepaid postal parcels, duty received through P.O. Department	-	39,197	9,044	-	34,066	7,617
Grand Totals	**1,388,896,075**	**1,265,679,091**	**200,479,505**	**1,144,938,070**	**1,248,273,582**	**199,011,628**

[1] Include other smaller ports.

18.—Dutiable Imports of Canada, by Values Entered for Consumption from British Empire and Foreign Countries, under the General, Preferential and Treaty Rate Tariffs, in the fiscal years ended Mar. 31, 1929 and 1930.

Country.	1929.			1930.		
	General Tariff.	Preferential Tariff.	Treaty Tariff.	General Tariff.	Preferential Tariff.	Treaty Tariff.
British Empire.	$	$	$	$	$	$
United Kingdom	40,358,452	112,529,249	1,569,530	39,461,391	107,404,053	1,777,604
Irish Free State	4,603	26,609	-	23,836	29,905	2,696
Africa—British East	4	236,617	-	11,015	1,887,147	-
British South	2,299	44,289	-	714	701,523	-
British West	6,366	110	245,252	35,014	-	357,075
Australia	28,068	1,522,791	49,641	135,524	1,864,082	62,802
British East Indies—						
British India	139,839	3,910,201	1,453	220,473	3,372,791	258
Ceylon	15,737	2,303,039	115	30,350	2,307,516	1,500
Straits Settlements	32,004	559,262	4,652	117,100	483,267	999
British Guiana	44,343	4,783,879	-	45,806	3,823,423	53
British West Indies—						
Barbados	16,061	3,644,459	-	14,307	3,292,128	32
Jamaica	16,100	2,999,095	30	24,549	1,850,905	53
Trinidad and Tobago	12,175	2,653,776	43,053	26,260	1,976,841	25,854
Other	245,980	1,207,499	18	76,443	483,495	418
Fiji	22	5,696,486	-	88	3,672,149	-
Hong Kong	1,020,689	-	54,270	960,959	-	30,789
Newfoundland	176,354	964	106	93,373	15,377	31
New Zealand	222,607	8,752,863	8,849	203,731	13,731,924	10,434
Totals, British Empire[1]	**42,429,422**	**150,877,941**	**1,999,026**	**41,566,892**	**146,937,35[illegible]**	**2,273,931**

[1] Include other minor countries not specified.

18.—Dutiable Imports of Canada, by Values Entered for Consumption from British Empire and Foreign Countries, under the General, Preferential and Treaty Rate Tariffs, in the fiscal years ended Mar. 31, 1929 and 1930—concluded.

Country.	1929.			1930.		
	General Tariff.	Preferential Tariff.	Treaty Tariff.	General Tariff.	Preferential Tariff.	Treaty Tariff.
Foreign Countries.	$	$	$	$	$	$
Argentina	1,473,818	–	437,794	3,552,053	–	672,154
Belgium	2,819,199	–	6,090,403	2,125,789	–	7,411,901
Denmark	35,707	–	64,336	35,035	–	49,919
France	1,361,816	–	23,252,555	1,563,479	–	21,843,100
Germany	15,806,631	–	–	16,690,755	–	–
Italy	549,158	–	2,851,959	699,035	–	3,504,576
Japan	988,695	–	8,962,468	1,172,997	–	7,823,470
Netherlands	3,083,843	–	2,658,079	3,159,476	–	2,592,441
Norway	45,036	–	864,740	96,225	–	909,823
Spain	872,902	–	1,642,929	770,589	–	1,604,092
Sweden	334,413	–	1,128,504	428,144	–	1,184,154
Switzerland	1,683,017	–	5,724,266	1,747,118	–	4,903,045
United States	523,846,086	–	–	523,299,322	–	–
Totals, Foreign Countries[1]	**569,421,779**	–	**56,347,262**	**571,959,850**	–	**56,492,451**
Totals, Dutiable Imports Entered for Consumption	**611,851,201**	**150,877,941**	**58,346,288**	**613,526,742**	**146,937,350**	**58,766,382**

[1] Include other minor countries not specified.

19.—Values of Imports into Canada of Merchandise Entered for Consumption, from the British Empire and from Foreign Countries, in the five fiscal years ended Mar. 31, 1926-1930.

Country.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$
British Empire.					
United Kingdom	163,731,210	163,939,065	186,435,824	194,041,381	189,179,738
Irish Free State	19,318	47,140	29,611	58,875	267,905
Aden	50,320	28,994	14,546	21,939	12,510
Africa—British East	102,682	476,974	1,223,113	297,683	1,982,243
British South	129,579	1,001,592	404,364	280,267	824,025
British West	1,507,818	1,030,122	1,939,313	1,226,539	1,321,906
Bermuda	77,097	112,185	53,642	61,771	93,460
British East Indies—British India	9,477,453	7,880,914	9,239,779	10,366,548	9,032,740
Ceylon	2,747,442	2,612,831	2,731,531	2,529,140	2,600,423
Straits Settlements	4,674,388	2,756,817	2,459,045	2,015,207	1,536,879
Other	27,819	40,016	6,150	1,739	170
British Guiana	4,503,203	4,592,106	6,072,172	4,873,237	3,982,493
British Honduras	271,293	262,262	157,925	260,519	340,577
British Sudan	13,534	21,437	6,844	12,180	3,414
British West Indies–Barbados	4,130,822	3,791,394	6,215,804	5,199,197	4,675,158
Jamaica	3,783,481	4,759,563	5,481,308	4,790,295	5,194,973
Trinidad and Tobago	1,061,514	2,821,485	2,099,201	3,376,058	2,590,157
Other	996,335	2,486,091	3,552,999	2,077,839	1,201,625
Gibraltar	–	957	683	160	–
Hong Kong	1,546,166	1,422,207	1,440,897	1,402,502	1,259,085
Iraq (Mesopotamia)	10,806	2,644	66,738	31,129	29,102
Malta, Cyprus and Gozo	221	967	875	2,623	1,627
Newfoundland	1,615,132	1,868,601	2,097,525	2,513,406	2,378,103
Oceania—Australia	3,402,054	6,296,165	5,301,618	3,484,836	4,211,351
Fiji	2,567,204	1,230,542	4,317,876	5,697,912	3,676,604
New Zealand	2,725,235	4,577,546	8,262,322	12,771,194	16,282,719
Other	1,141	–	–	–	–
Palestine	6,861	7,921	15,590	25,163	24,717
Totals, British Empire	**208,820,128**	**214,068,538**	**249,627,235**	**257,419,339**	**252,703,704**
Foreign Countries.					
Abyssinia	14,224	12,869	40,784	32,295	35,683
Argentina	3,454,108	5,657,074	9,849,754	7,427,568	10,232,327
Austria	196,033	482,264	594,875	678,193	797,370
Belgium	6,953,173	9,663,308	9,898,237	12,014,538	13,019,006
Brazil	1,848,758	1,969,621	2,088,200	1,726,314	1,687,707
Chile	670,145	471,424	522,597	379,453	667,126
China	2,547,995	5,041,592	2,572,453	3,095,296	2,977,022

19.—Values of Imports into Canada of Merchandise Entered for Consumption, from the British Empire and from Foreign Countries, in the five fiscal years ended Mar. 31, 1926-1930—concluded.

Country.	1926.	1927.	1928.	1929.	1930.
Foreign Countries—concluded.	$	$	$	$	$
Colombia	693,058	1,117,046	7,580,376	6,849,408	7,252,691
Costa Rica	77,065	44,488	47,358	75,062	136,934
Cuba	11,063,284	8,076,575	5,587,171	4,903,506	3,510,227
Czechoslovakia	1,272,045	1,726,922	2,423,984	3,297,593	3,792,389
Denmark	137,466	175,215	126,283	152,721	178,660
Greenland	–	–	–	214,276	168,376
Ecuador	–	563	618,001	–	–
Egypt	77,858	113,052	159,213	193,573	155,852
Finland	43,586	82,636	93,106	98,286	91,273
France	19,151,699	23,992,322	26,473,732	26,215,696	25,158,207
French Africa	8,501	10,971	142,331	153,244	113,329
French East Indies	17,487	1,387	61,340	1,099	12,685
St. Pierre and Miquelon	36,442	73,054	77,560	55,524	64,169
Germany	9,986,763	15,030,138	17,055,798	20,797,683	21,505,428
Greece	334,909	329,031	254,134	370,708	374,266
Guatemala	256,523	182,860	93,390	20,984	37,598
Hayti	130,162	373,479	198,206	251,497	70,783
Honduras	582,153	927,108	622,299	–	352,805
Hungary	5,665	60,956	66,939	18,001	47,744
Italy	2,597,759	3,444,062	4,241,802	4,260,325	4,963,694
Japan	9,564,074	11,170,380	12,505,373	12,921,317	12,537,253
Korea	270	74	2,101	2,359	1,928
Latvia	400	–	41,043	22,102	4,317
Mexico	3,684,460	2,372,972	1,174,087	1,170,245	749,645
Morocco	7,260	13,215	14,728	28,666	48,556
Netherlands	6,864,563	7,693,668	8,794,049	9,016,763	9,432,608
Dutch East Indies	1,729,283	857,439	1,131,283	704,663	630,120
Dutch Guiana	7,442	–	13,409	52,592	28,135
Dutch West Indies	–	180,267	495,078	173,319	441,151
Nicaragua	78,665	70,035	2,561	3,337	28,152
Norway	630,781	911,357	1,064,215	989,504	1,104,935
Paraguay	47,735	14,047	130,406	5,589	–
Persia	152,980	115,483	124,427	348,823	246,954
Peru	5,700,109	5,893,106	5,216,402	4,447,858	7,492,128
Poland and Danzig	35,566	43,875	135,452	79,247	143,430
Portugal	348,817	471,026	722,279	678,030	683,114
Azores and Madeira	69,946	91,841	130,343	84,804	139,290
Roumania	2,363	35,666	46,947	32,364	27,308
Russia	7,207	20,336	73,119	236,881	909,525
Salvador	54,623	78,639	23,044	–	14,032
Santo Domingo	6,791,339	6,015,541	2,452,841	1,135,360	1,776,772
Siam	95,731	16,988	42,379	10,391	51,393
Spain	2,085,850	2,220,823	2,572,150	2,703,075	2,784,059
Canary Islands	916	326	1,964	7,030	5,568
Sweden	1,134,644	1,643,973	1,862,120	2,185,089	2,259,404
Switzerland	7,462,608	9,491,779	8,595,677	7,917,445	7,314,840
Syria	3,940	13,268	15,162	18,368	17,612
Turkey	344,268	406,114	526,321	574,178	496,156
United States	608,618,542	687,022,521	718,896,270	868,012,229	847,442,037
Alaska	191,715	173,572	171,562	145,010	177,692
Hawaii	251,253	255,576	309,753	316,930	332,250
Philippines	74,253	178,764	159,879	196,859	171,474
Porto Rico	2,372	15,696	1,490	3,760	7,687
Uruguay	69,558	55,280	80,507	9,122	66,147
Venezuela	188,761	190,778	213,538	701,935	528,962
Yugoslavia	1,407	6,854	12,041	25,543	30,938
Totals, Foreign Countries[1]	**718,598,604**	**816,823,967**	**859,329,171**	**1,008,259,752**	**995,569,878**
Grand Totals, Imports	**927,328,732**	**1,030,892,505**	**1,108,956,466**	**1,265,679,091**	**1,248,273,582**
Continents.					
Europe—United Kingdom	163,731,210	163,939,065	186,435,824	194,041,381	189,179,738
Other Europe	59,693,819	78,090,433	85,853,184	92,737,045	95,548,297
North America	644,605,333	721,710,922	749,501,321	894,230,637	871,452,695
South America	17,188,318	19,961,401	32,390,560	26,473,076	31,937,716
Asia	32,653,015	31,971,533	32,428,804	33,692,542	31,142,067
Oceania	8,661,140	12,538,593	18,351,448	22,270,872	24,502,924
Africa	795,897	2,680,558	3,995,325	2,233,538	4,510,145

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[1] Include other minor countries not specified.

20.—Values of Exports of Canadian Produce, from Canada to the British Empire and to Foreign Countries, in the five fiscal years ended Mar. 31, 1926-1930.

Country.	1926.	1927.	1928.	1929.	1930.
British Empire.	$	$	$	$	$
United Kingdom	508,237,560	446,872,851	410,691,392	429,730,485	281,745,965
Irish Free State	4,708,689	6,057,004	4,325,251	4,144,743	2,711,544
Aden	36,640	38,638	31,056	40,906	63,355
Africa—British East	995,022	649,885	1,223,232	1,568,171	1,707,167
British South	9,078,462	8,388,731	8,724,969	12,231,773	10,917,642
British West	587,083	883,868	893,074	1,245,818	1,083,269
Bermuda	1,150,803	1,286,770	1,364,952	1,628,003	2,287,280
British East Indies—British India	7,420,708	9,995,386	11,042,851	11,858,436	9,116,251
Ceylon	606,688	708,096	727,369	661,793	486,236
Straits Settlements	3,568,498	2,460,430	1,540,530	1,203,909	1,105,228
Other	239	1,210	4,428	8,526	8,875
British Guiana	2,256,556	2,408,677	2,284,744	2,238,506	1,661,332
British Honduras	504,411	484,712	604,613	900,034	892,518
British Sudan	45,445	20,661	118,449	160,704	95,093
British West Indies—Barbados	1,592,570	1,624,403	1,836,952	1,681,950	1,324,569
Jamaica	3,976,210	4,307,751	4,951,196	5,266,083	5,138,757
Trinidad and Tobago	3,875,332	3,840,984	4,240,751	4,153,571	3,998,197
Other	3,851,248	3,748,716	3,861,847	4,656,219	4,567,639
Gibraltar	61,269	405,064	23,958	75,391	71,491
Hong Kong	1,885,838	1,460,274	2,465,946	2,837,463	2,000,124
Iraq (Mesopotamia)	122,257	163,153	289,938	137,729	79,130
Malta, Cyprus and Gozo	277,861	454,872	349,881	1,110,143	318,853
Newfoundland	11,277,182	11,169,991	11,661,248	11,160,510	12,178,392
Oceania—Australia	15,411,746	18,965,881	14,189,446	19,470,305	16,322,771
Fiji	271,004	317,367	297,545	329,797	431,211
New Zealand	16,562,007	13,538,513	11,366,500	17,357,763	19,166,488
Other	129,278	78,521	49,319	78,051	71,957
Palestine	77,389	105,352	104,408	189,952	98,934
Totals, British Empire[1]	**598,567,995**	**540,437,761**	**499,265,845**	**536,127,017**	**379,650,268**
Foreign Countries.					
Argentina	12,639,706	13,101,846	11,085,728	14,493,191	19,206,746
Austria	21,536	191,152	291,824	349,701	435,770
Belgium	22,802,741	21,341,116	20,781,857	27,301,384	21,692,858
Belgian Congo	19,994	26,938	110,594	189,180	322,837
Bolivia	173,698	66,670	117,954	87,604	132,315
Brazil	4,832,391	7,291,479	4,897,082	5,872,940	4,292,293
Chile	1,409,787	1,517,901	1,347,528	2,403,442	2,280,003
China	24,473,446	13,516,939	13,432,396	24,242,507	16,527,959
Colombia	683,700	1,349,315	1,732,573	1,797,393	1,643,048
Costa Rica	213,445	198,946	203,650	184,773	97,617
Cuba	8,525,583	6,827,572	5,386,679	4,442,953	4,245,576
Czechoslovakia	132,114	476,632	1,439,483	1,703,825	478,847
Denmark	6,215,226	5,666,387	6,390,662	5,981,035	4,108,704
Ecuador	150,079	54,444	124,570	139,874	111,674
Egypt	1,340,020	1,485,823	1,798,004	2,845,973	1,028,530
Estonia	86,317	212,164	174,181	88,680	32,509
Finland	1,578,554	1,882,874	1,838,447	2,122,129	1,331,652
France	13,952,262	15,220,232	9,946,145	16,131,188	16,507,011
French Africa	210,603	520,249	456,912	475,026	612,653
French West Indies	223,770	234,298	371,511	511,374	537,990
St. Pierre and Miquelon	487,895	582,006	1,476,340	2,729,124	5,859,251
Germany	30,734,037	34,411,021	42,244,217	46,708,804	25,343,661
Greece	3,709,798	6,023,161	4,282,227	11,850,771	5,387,067
Guatemala	152,329	218,383	175,917	191,930	172,877
Hayti	608,117	393,799	364,770	394,791	142,578
Honduras	168,379	117,893	110,832	235,957	143,701
Italy	12,788,653	22,815,083	18,742,516	23,024,899	11,387,294
Japan	34,694,862	29,929,031	32,968,243	42,099,968	30,475,581
Korea	10,667	946,807	487,360	160,995	18,509
Latvia	528,765	68,019	125,322	34,315	11,248
Mexico	2,990,773	2,760,686	2,539,947	2,675,985	2,583,440
Morocco	125,484	425,550	277,783	383,699	306,654
Netherlands	23,476,607	26,374,378	35,537,951	44,366,888	15,944,469
Dutch East Indies	3,881,511	3,651,511	2,364,334	3,605,367	2,279,871
Dutch Guiana	107,834	107,270	116,414	123,580	102,204
Dutch West Indies	79,902	142,808	163,249	185,044	264,502

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[1] Include other minor countries not specified.

20.—Values of Exports of Canadian Produce from Canada to the British Empire and to Foreign Countries, in the five fiscal years ended Mar. 31, 1926-1930—concluded.

Country.	1926.	1927.	1928.	1929.	1930.
Foreign Countries—concluded.	$	$	$	$	$
Nicaragua	46,267	53,976	72,733	66,562	61,999
Norway	6,767,887	5,028,104	6,665,770	7,435,537	3,674,985
Panama	483,449	504,030	1,124,817	1,040,519	877,780
Paraguay	46,099	58,956	80,756	96,194	75,401
Persia	17,691	38,207	72,896	83,577	148,928
Peru	1,226,355	1,406,958	1,285,525	1,311,267	1,795,003
Poland and Danzig	2,295,215	154,814	455,975	356,759	85,234
Portugal	121,773	1,273,457	942,210	5,735,299	1,410,606
Azores and Madeira	79,297	180,678	210,004	187,199	153,946
Portuguese Africa	811,086	876,114	1,054,816	943,194	1,210,116
Roumania	305,169	465,840	795,953	568,432	449,303
Russia	3,788,266	2,407,206	2,424,071	2,457,492	3,738,401
Salvador	127,093	141,297	97,232	75,803	91,432
Santo Domingo	350,256	461,120	413,034	332,802	227,510
Siam	294,246	317,828	117,227	250,575	126,808
Spain	832,547	543,022	609,653	5,704,255	4,503,231
Canary Islands	78,581	185,840	131,058	71,374	99,048
Sweden	3,542,709	3,415,805	4,612,342	4,765,818	4,678,037
Switzerland	1,218,616	594,179	498,270	483,919	1,197,480
Syria	47,586	113,134	158,742	476,229	242,184
Turkey	110,597	39,137	62,640	146,953	82,679
United States	474,987,367	466,422,789	478,145,383	499,612,145	515,049,763
Alaska	270,250	249,214	311,434	411,836	515,626
Hawaii	11,785	38,027	79,369	37,262	37,576
Philippines	172,630	230,647	272,751	321,219	266,794
Porto Rico	866,688	914,957	815,388	977,961	877,934
Uruguay	1,910,269	2,784,391	1,628,209	1,107,631	1,094,771
Venezuela	1,483,333	2,293,876	1,497,544	1,792,549	1,286,943
Yugoslavia	105,156	116,325	137,955	48,829	28,658
Totals, Foreign Countries[1]	**716,787,790**	**711,719,745**	**729,083,498**	**827,582,655**	**740,608,034**
Grand Totals, Canadian Exports	**1,315,355,791**	**1,252,157,506**	**1,228,349,343**	**1,363,709,672**	**1,120,258,302**
Continents.					
Europe—United Kingdom	508,237,560	446,872,851	410,691,392	429,730,485	281,745,965
Other Europe	140,332,622	155,929,919	164,095,981	213,107,315	125,942,697
North America	516,335,328	506,191,821	519,182,576	542,487,961	561,270,595
South America	27,404,422	32,948,780	27,415,602	32,557,990	34,654,797
Asia	77,145,683	63,481,649	65,812,851	88,232,889	63,073,797
Oceania	32,560,928	33,199,782	26,264,343	37,313,278	36,081,304
Africa	13,339,248	13,532,704	14,886,598	20,279,754	17,489,147

[1] Include other minor countries not specified.

21.—Value of Merchandise Imported into, and Exported from, Canada through United States during the fiscal years ended Mar. 31, 1929 and 1930.

Country whence Imported and to which Exported.	Merchandise Imported through United States.		Merchandise Exported through United States.	
	1929.	1930.	1929.	1930.
	$	$	$	$
United Kingdom	987,752	1,042,164	217,590,205	113,333,242
Australia	154,685	102,207	4,829,118	3,277,288
Bermuda	2,519	537	262,787	90,308
British Africa	85,253	38,685	6,917,985	4,918,937
British India	234,406	114,094	8,036,096	3,292,036
British East Indies	903,360	639,326	1,709,777	1,324,596
British Guiana	–	–	215,999	139,558
British Honduras	–	141,517	8,553	9,670
British West Indies	9,083	14,447	3,539,063	2,557,842
Hong Kong	4,935	8,793	151,012	136,524
Iraq (Mesopotamia)	11,229	396	136,930	75,648
Malta	–	–	741,142	298,053
New Zealand	221,365	148,924	3,457,462	6,035,301
Totals, British Empire[1]	**2,633,702**	**2,263,884**	**218,339,403**	**136,096,053**
Argentina	1,743,386	1,442,018	8,662,538	13,910,298
Austria	8,479	9,034	290,637	329,515
Belgium	32,716	157,684	368,210	1,042,085
Brazil	568,899	650,253	4,033,201	3,411,200
Central American States[2]	3,680	10,495	510,963	510,256
Chile	1,280	6,623	2,166,917	2,131,348
China	543,193	609,439	3,337,049	1,464,034
Colombia	536,911	461,572	856,440	808,345
Cuba	1,013,560	908,773	1,949,931	1,472,115
Czechoslovakia	25,953	11,269	668,210	174,017
Denmark	8,475	3,767	2,034,832	2,497,603
Egypt	52,520	10,683	2,769,190	881,595
Finland	–	–	1,163,200	722,508
France	172,953	66,782	1,924,996	2,129,101
French Africa	21,144	56,702	454,762	581,899
French West Indies	–	–	170,155	122,249
Germany	1,097,014	680,931	4,648,113	4,063,709
Greece	75,916	108,475	1,830,084	1,030,468
Hayti	–	–	390,565	125,675
Italy	495,570	409,669	1,447,753	1,081,206
Japan	148,702	157,750	2,824,819	3,500,363
Mexico	383,678	278,727	2,218,051	2,406,202
Morocco	–	27,642	382,584	302,346
Netherlands	271,528	183,302	5,002,563	4,373,206
Dutch East Indies	228,681	212,724	3,551,589	2,230,717
Norway	5,844	6,460	2,308,415	1,176,765
Panama	–	–	1,000,373	832,864
Persia	66,899	48,690	83,577	148,928
Peru	653	–	1,026,261	1,498,611
Poland and Danzig	5,747	5,708	206,919	37,067
Porto Rico	2,560	2,761	162,235	72,778
Portugal	58,180	21,005	26,917	533,089
Portuguese Africa	–	–	423,713	601,316
Roumania	3,884	–	541,099	369,943
Russia	51,807	12,985	1,782,244	2,704,907
Santo Domingo	–	–	312,827	211,948
Siam	–	–	241,590	123,268
Spain	302,381	504,321	1,237,457	3,594,243
Sweden	81,099	65,089	1,382,284	1,429,232
Switzerland	14,732	69,137	213,813	404,789
Syria	3,711	2,097	391,044	237,320
Turkey	248,559	276,267	78,546	62,835
Uruguay	–	4,965	645,814	866,461
Venezuela	97,728	78,849	1,670,032	1,199,797
Totals, Foreign Countries[1]	**8,408,832**	**7,586,005**	**68,850,420**	**69,067,677**
Grand Totals	**11,042,534**	**9,849,889**	**317,189,823**	**205,163,730**

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[1] Totals include other countries not specified.
[2] Costa Rica, Guatemala, Honduras, Nicaragua and Salvador.

22.—Import and Export Trade of Canada with Bermuda, Newfoundland and Mexico, years ended Mar. 31, 1929 and 1930.

Article.	Bermuda.		Newfoundland.		Mexico.	
	1929.	1930.	1929.	1930.	1929.	1030.
Imports for Consumption.						
Tomatoes.............bush.	855	8,055	-	-	139,079	95,592
$	2,311	15,242	-	-	426,927	282,574
Rice, uncleaned........ cwt.	-	-	-	-	38,190	25,791
$	-	-	-	-	114,894	80,151
Coffee, green........... lb.	-	-	-	-	1,108,308	1,554,891
$	-	-	-	-	294,679	343,755
Fish, fresh............. $	-	-	190,007	200,842	-	-
Fish,dried,salted,pickled $	-	-	554,037	491,174	-	-
Fish, canned........... $	-	-	70,181	104,138	-	-
Fish, seal and whale oils gal.	-	-	177,876	187,742	-	-
$	-	-	166,681	141,047	-	-
Iron ore................ ton	-	-	627,231	758,665	-	-
$	-	-	627,255	758,687	-	-
Crude petroleum, natural gal.	-	-	-	-	8,101,792	-
$	-	-	-	-	277,776	-
Stone, refuse........... ton	-	-	241,828	267,889	-	-
$	-	-	158,349	174,604	-	-
Totals, Imports[1]... $	**61,771**	**93,460**	**2,513,406**	**2,378,103**	**1,170,245**	**749,645**
Exports (Canadian).						
Apples, fresh........... brl.	1,790	4,268	25,997	25,265	-	-
$	8,084	18,048	100,763	95,831	-	-
Potatoes..............bush.	31,964	50,240	233,926	116,858	-	-
$	22,555	53,676	146,120	69,816	-	-
Oats..................bush.	268,558	282,443	570,223	461,076	-	-
$	191,137	188,426	376,100	302,175	-	-
Flour of wheat......... brl.	14,841	14,691	311,563	256,731	300	-
$	99,367	100,182	2,228,605	1,942,388	1,680	-
Confectionery, all kinds $	9,585	21,556	199,807	225,074	116	-
Sugar, n.o.p........... cwt.	1,097	6,608	146,258	161,306	-	-
$	4,911	24,657	823,471	794,489	-	-
Alcoholic beverages..... $	303,569	842,683	9,149	16,306	16,022	80,663
Rubber boots and shoes pair	3,626	4,197	205,070	262,423	76,365	44,243
$	3,069	3,298	217,318	234,537	47,854	30,207
Hay.................... ton	2,796	3,319	8,692	11,086	-	-
$	36,448	47,578	101,687	155,916	-	-
Cattle.................. No.	26	42	1,912	2,039	-	-
$	2,315	3,296	111,772	127,906	-	-
Fish,dried,salted,pickled $	34,537	43,895	41,761	132,514	-	-
Fish, preserved or canned $	15,375	14,740	6,839	7,344	142,320	89,777
Meats.................. $	250,500	264,579	500,404	610,623	8	-
Butter.................. cwt.	2,871	1,560	3,727	3,701	-	-
$	112,329	61,848	148,411	148,147	-	-
Cheese................. cwt.	1,893	1,837	5,792	5,370	-	2
$	46,550	41,857	132,575	110,050	-	63
Milk powder, condensed, evaporated.......... cwt.	5,744	6,948	13,145	14,749	424	135
$	69,798	82,339	147,486	157,698	4,382	1,300
Cotton manufactures... $	7,123	7,116	110,366	135,605	3,325	1,561
Wool clothing.......... $	7,283	8,245	159,424	132,998	4,674	52
Felt manufactures...... $	-	-	110,890	149,185	27,518	32,882
Wood, unmanufactured (incl. lumber)........ $	39,764	46,063	178,929	158,045	16,040	11,533
Furniture of wood...... $	20,907	25,679	71,685	81,537	-	858
Paper and manufactures of.................... $	9,370	9,576	198,721	198,278	51,804	43,325
Rails, iron or steel..... ton	-	-	57	17,159	-	-
$	-	-	2,092	594,579	-	-
Engines, all kinds...... $	599	713	71,117	104,415	-	-
Machinery, except for farms................ $	1,907	3,383	154,930	363,691	18,950	33,168
Aluminium............ $	649	373	6,269	7,148	117,365	552,375
Electric apparatus...... $	6,315	2,291	53,873	84,183	95,146	90,279
Coal................... ton	659	291	257,077	267,969	-	-
$	5,272	2,328	1,355,767	1,430,877	-	-
Petroleum and its products................ $	2,417	16,769	539,345	386,616	-	-
Medicinal preparations. $	7,246	8,682	84,604	116,345	-	16
Explosives, all kinds... $	-	104	214,870	230,306	-	-
Soda and compounds... cwt.	-	-	184	491	220,162	198,658
$	-	-	1,020	1,793	1,322,663	1,190,118
Other inorganic chemicals................. $	121	-	6,721	15,493	143,003	165,207
Ships, boats, launches.. $	-	1,605	74,923	133,984	-	-
Totals, Exports (Canadian)[1]...... $	**1,628,003**	**2,287,280**	**11,160,510**	**12,178,392**	**2,675,985**	**2,583,440**

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[1] Totals include other items not specified.

23.—Import and Export Trade of Canada with Barbados, Cuba and Santo Domingo, years ended Mar. 31, 1929 and 1930.

Article.	Barbados.		Cuba.		Santo Domingo.	
	1929.	1930.	1929.	1930.	1929.	1930.[1]
Imports for Consumption.						
Pineapples, fresh....... $	–	–	2,635	89,315	–	–
Molasses.............. gal.	3,992,516	4,027,420	429,706	–	–	–
$	1,524,031	1,405,753	26,875	–	–	–
Sugar, not above No. 16, D.S................ cwt.	1,077,242	1,192,506	1,117,212	768,226	360,376	868,993
$	3,634,105	3,202,056	2,593,901	1,419,358	874,547	1,693,612
Sugar, above No. 16, D.S................ cwt.	1,827	31,803	309,744	359,698	70,451	42,487
$	6,242	79,333	1,064,415	1,026,947	255,867	82,778
Rum...............pf. gal.	975	2,089	8,278	6,423	–	–
$	4,433	9,310	90,283	71,759	–	–
Tobacco, unmanufactured............... lb.	–	–	944,136	827,739	118	–
$	–	–	825,382	715,542	65	–
Cigars................ lb.	–	–	21,070	16,240	–	–
$	–	–	147,732	119,363	–	–
Iron drums, tanks, cylinders, etc.......... $	15,080	12,346	–	–	–	–
Totals, Imports[1].. $	**5,199,197**	**4,675,158**	**4,903,506**	**3,510,227**	**1,135,360**	**1,776,772**
Exports (Canadian).						
Potatoes.............bush.	22,274	18,487	2,380,902	2,003,437	–	–
$	18,560	13,291	1,506,516	2,081,625	–	–
Oats.................bush.	151,811	89,311	30,117	–	–	–
$	98,293	48,906	19,571	–	–	–
Wheat flour........... brl.	66,479	55,838	36,428	7,638	7,353	2,738
$	404,264	336,937	195,535	45,420	48,666	16,831
Whiskey.............. gal.	37	47	19,844	4,550	189	133
$	142	175	103,710	23,653	716	503
Oilcake............... cwt.	49,656	17,114	–	–	–	–
$	127,416	42,383	–	–	–	–
Rubber, manufactures of $	69,181	68,551	11,171	12,387	61,545	36,949
Hay.................. ton	520	306	1,383	4,116	–	–
$	6,582	4,079	12,118	44,605	–	–
Fish, dried, smoked, pickled............. $	68,720	109,481	839,551	713,220	117,872	86,568
Canned fish........... $	36,193	32,577	9,110	6,906	34,363	18,816
Leather, unmanufactured............... $	4,510	3,159	78,168	92,200	6,760	6,965
Meats................. $	63,039	55,158	–	–	–	–
Butter................ cwt.	679	594	316	330	85	–
$	32,517	27,863	12,627	10,581	3,720	–
Cheese............... cwt.	802	735	615	116	3	7
$	22,150	18,918	10,825	3,518	78	162
Milk, condensed....... cwt.	2,841	1,990	38,345	24,402	480	74
$	39,650	27,698	449,275	263,959	4,798	728
Milk, evaporated...... cwt.	23	30	3,410	6,339	28	675
$	224	264	42,370	76,686	224	5,437
Planks and boards....M ft.	6,226	4,860	1,754	2,698	103	76
$	171,730	135,658	66,502	67,357	3,961	2,891
Staves and headings... $	80,175	43,121	2,664	4,420	–	–
Newsprint paper....... cwt.	201	342	197,196	169,845	2,821	2,828
$	664	1,341	633,973	508,659	9,122	8,519
Books and printed matter................. $	4,478	7,458	5,636	4,116	662	11,754
Automobiles........... No.	251	50	8	–	5	7
$	109,641	22,358	9,217	–	4,991	3,991
Electric apparatus..... $	2,361	2,494	39,793	5,247	3,086	1,362
Ammonium sulphate.. cwt.	8,960	43,221	5,047	–	–	–
$	19,360	89,786	9,210	–	–	–
Inorganic chemicals.... $	477	431	244,128	156,524	13,513	7,517
Stationery, n.o.p....... $	3,729	3,579	16,343	21,124	7,006	7,162
Totals, Exports (Canadian)[1]..... $	**1,681,950**	**1,324,569**	**4,442,953**	**4,245,576**	**332,802**	**227,510**

[1] Totals include other items not specified.

24.—Import and Export Trade of Canada with Jamaica, Trinidad and Tobago, and other British West Indies, years ended Mar. 31, 1929 and 1930.

Article.	Jamaica.		Trinidad and Tobago.		Other British West Indies.	
	1929.	1930.	1929.	1930.	1929.	1930.
Imports for Consumption.						
Bananas..............bunch	56,785	2,729,353	-	-	604	3,642
$	38,936	1,490,675	-	-	828	3,648
Coco-nuts............. No.	4,695,605	3,609,070	2,078,635	2,129,320	71,354	46,502
$	100,526	66,360	46,698	46,513	1,866	1,221
Molasses................ gal.	1,006	15,311	5,769	27,582	419,873	456,649
$	370	3,850	1,336	3,597	138,430	149,149
Sugar not above No. 16, D.S................. cwt.	737,582	567,584	809,450	742,680	343,093	159,693
$	2,520,322	1,513,617	2,649,592	1,943,551	1,229,737	436,431
Sugar above No. 16, D.S................. cwt.	84,309	52,750	2	11,229	585	3,804
$	244,572	124,885	10	29,309	1,696	9,800
Cocoa beans, not roasted.................. cwt.	12,323	29,691	43,739	40,286	25,342	24,806
$	129,855	272,435	564,308	445,554	256,592	237,564
Coffee, green........... lb.	6,272,978	6,747,328	387,304	464,280	43,950	31,060
$	1,397,147	1,303,418	75,312	92,945	8,870	5,670
Spices................. $	62,754	71,424	-	-	49,207	53,824
Rum...............pf. gal.	37,242	34,415	57	172	267	3,694
$	212,663	201,180	235	727	1,633	19,869
Salt.................. cwt.	-	-	-	-	404,691	639,707
$	-	-	-	-	50,580	87,314
Totals, Imports[1].. $	**4,790,295**	**5,194,973**	**3,376,058**	**2,590,157**	**2,077,839**	**1,201,625**
Exports (Canadian).						
Potatoes.............bush.	34,842	25,261	89,744	60,781	7,045	13,214
$	29,032	29,082	68,548	43,847	6,326	13,251
Oats.................bush.	54,861	53,570	155,367	66,560	44,985	25,226
$	38,162	35,702	101,936	38,685	30,623	16,418
Flour of wheat......... brl.	444,871	338,946	290,252	275,271	171,424	170,362
$	2,569,178	2,002,286	1,772,672	1,700,254	1,028,002	1,034,077
Biscuits and bread..... cwt.	720	517	1,120	1,059	1,350	1,326
$	8,528	6,264	18,045	20,318	18,471	19,093
Sugar, all kinds, n.o.p.. cwt.	20,032	17,840	31,711	13,782	17,746	19,107
$	100,921	86,219	168,702	63,739	94,133	93,085
Whiskey.............. gal.	1,345	3,607	254	337	483,799	459,927
$	5,892	18,191	1,227	1,392	2,458,791	2,402,969
Rubber, manufactures of $	393,828	416,594	245,298	259,328	109,817	114,283
Fish, dried, salted, pickled.............. $	621,163	1,000,086	445,432	451,991	152,975	179,302
Fish, canned........... $	84,905	123,331	83,976	87,531	20,434	22,176
Meats.................. $	62,178	60,349	74,671	68,783	22,910	31,952
Butter................. cwt.	2,889	1,362	1,329	1,114	1,344	1,393
$	126,012	59,055	59,921	50,770	60,204	62,680
Cheese................ cwt.	3,173	3,070	2,301	2,709	1,039	1,183
$	78,666	74,939	59,839	67,068	28,224	30,462
Milk, condensed....... cwt.	22,220	20,008	10,055	11,811	3,112	4,495
$	264,924	247,271	131,433	150,940	32,134	51,905
Planks and boards....M ft.	2,566	1,814	2,858	7,132	4,284	2,627
$	55,387	41,282	74,021	174,138	154,420	93,230
Shooks................ $	4,163	4,950	17,320	29,208	2,460	4,849
Furniture (wood)...... $	19,164	25,003	12,416	12,487	6,928	9,646
Paper and manufactures of.................... $	78,127	66,486	29,952	39,119	7,794	5,715
Nails, all kinds........ cwt.	9,459	11,656	8,235	8,481	7,466	5,904
$	33,297	37,501	22,159	23,163	29,560	23,868
Automobiles........... No.	628	591	604	483	142	112
$	305,373	317,028	273,798	224,627	62,956	47,761
Electric apparatus..... $	2,161	3,888	23,275	3,512	1,093	2,430
Cement...............cwt.	34,796	18,988	43,001	53,065	84,732	43,726
$	8,174	4,912	14,212	18,450	30,073	15,897
Medicinal preparations. $	17,103	30,273	19,185	24,707	12,536	11,237
Paints and varnish..... $	14,080	13,316	14,505	18,902	10,886	11,007
Soap.................. lb.	41,998	55,302	282,951	394,270	58,793	54,004
$	11,746	14,192	22,626	29,570	6,033	5,667
Totals, Exports (Canadian)[1]...... $	**5,266,083**	**5,138,757**	**4,153,571**	**3,998,197**	**4,656,219**	**4,567,639**

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[1] Totals include other items not specified.

25.—Import and Export Trade of Canada with British Guiana, Argentina and Brazil, years ended Mar. 31, 1929 and 1930.

Article.		British Guiana.		Argentina.		Brazil.	
		1929.	1930.	1929.	1930.	1929.	1930.
Imports for Consumption.							
Corn	bush.	–	–	4,509,203	5,561,869	–	–
	$	–	–	4,407,430	5,233,899	–	–
Sugar, not above No. 16, D.S.	cwt.	1,400,277	1,288,128	–	–	–	–
	$	4,377,908	3,492,121	–	–	–	–
Sugar, above No. 16, D.S.	cwt.	128,722	108,797	–	–	–	–
	$	371,554	285,947	–	–	–	–
Coffee, green	lb.	–	7,480	–	–	8,008,575	8,942,680
	$	–	1,121	–	–	1,697,427	1,639,277
Flax seed	bush.	–	–	378,817	1,487,067	–	–
	$	–	–	678,288	3,038,396	–	–
Hides and skins, raw	$	–	–	1,565,460	1,103,659	–	7,092
Meats	$	–	–	602,947	733,325	–	–
Wool, raw	lb.	–	–	172,989	83,753	–	–
	$	–	–	70,365	36,894	–	–
Totals, Imports[1]		**4,873,237**	**3,982,493**	**7,427,568**	**10,232,327**	**1,726,314**	**1,687,707**
Exports (Canadian).							
Potatoes	bush.	106,092	47,923	–	333	300	–
	$	84,735	33,047	–	516	184	–
Oats	bush.	90,609	53,540	–	–	–	–
	$	66,069	33,702	–	–	–	–
Flour of wheat	brl.	152,116	115,432	–	–	11,814	–
	$	951,618	715,385	–	–	76,627	–
Rubber, manufactures of	$	122,256	97,496	3,552,066	3,624,073	1,726,899	1,136,000
Fish, dried, salted, smoked, pickled	$	66,186	91,145	–	1,223	330,849	384,846
Fish, canned	$	27,094	39,438	18,268	12,083	–	300
Butter	cwt.	638	718	–	–	–	–
	$	28,559	31,071	–	–	–	–
Cheese	cwt.	1,333	799	65	134	–	–
	$	34,232	19,507	1,864	3,953	–	–
Milk, condensed	cwt.	4,954	4,453	–	–	–	–
	$	72,030	64,040	–	–	–	–
Binder twine	cwt.	–	–	12,500	10,000	–	–
	$	–	–	132,250	130,000	–	–
Wood, unmanufactured (incl. lumber)	$	92,402	51,819	68,819	71,750	712	161
Wood, manufactured	$	93,007	25,572	7,667	23,635	90	1,378
Paper and mfrs. of	$	12,528	14,878	2,632,781	2,968,225	72,011	3,091
Iron pipe and tubing	$	9,671	1,147	133,954	192,471	46,349	16,655
Farm implements and machinery	$	215	415	3,322,773	5,985,597	63,705	45,154
Nails, spikes, tacks, etc., all kinds	$	17,464	13,822	6,593	6,942	716	764
Sewing machines	$	–	–	1,766,769	1,322,814	2,389,645	1,731,517
Automobiles	No.	199	99	5,209	7,173	695	495
	$	91,083	47,491	2,531,172	3,799,597	365,377	245,269
Automobile parts	$	2,660	3,103	15,648	4,399	14,615	2,162
Aluminium	$	253	–	35,436	356,678	66,220	247,958
Copper wire and cable	$	–	139	70	–	118,248	12,280
Lead, in pigs	$	–	–	19,300	28,911	25,982	17,906
Zinc, spelter	cwt.	–	–	5,042	89,600	–	–
	$	–	–	27,023	450,008	–	–
Electric apparatus	$	15,057	8,669	34,379	38,658	244,495	265,024
Coal	ton	1,066	–	4,046	1,066	4,046	–
	$	6,393	–	24,276	6,396	24,276	–
Cement	cwt.	92,120	1,316	–	–	18,860	18,800
	$	42,809	589	–	–	5,087	5,119
Paints and varnish	$	10,459	10,288	641	1,851	3,841	2,542
Containers, n.o.p. (packages)	$	97,396	47,990	–	–	3,000	3,000
Musical instruments	$	527	318	3,000	6,263	2,083	1,234
Totals, Exports (Canadian)[1]	$	**2,238,506**	**1,661,332**	**14,493,191**	**19,206,746**	**5,872,940**	**4,292,293**

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[1] Totals include other items not specified.

26.—Import and Export Trade of Canada with Chile, Peru and Uruguay, years ended Mar. 31, 1929 and 1930.

Article.	Chile.		Peru.		Uruguay.	
	1929.	1930.	1929.	1930.	1929.	1930.
Imports for Consumption.						
Sugar, not above No. 16, D.S. .... cwt.	–	–	244,483	612,024	–	–
$	–	–	578,692	1,172,268	–	–
Petroleum, crude for refining .... gal.	–	–	76,781,697	114,233,912	–	–
$	–	–	3,725,300	5,999,190	–	–
Petroleum, n.o.p., ·8235 or heavier .... gal.	–	–	3,475,632	8,676,640	–	–
$	–	–	137,461	320,643	–	–
Soda nitrate .... cwt.	192,767	345,930	–	–	–	–
$	379,453	665,711	–	–	–	–
Totals, Imports[1] $	**379,453**	**667,126**	**4,447,858**	**7,492,128**	**9,122**	**66,147**
Exports (Canadian).						
Wheat .... bush.	–	–	145,333	182,662	–	–
$	–	–	175,566	238,350	–	–
Rubber boots and shoes pair	189,893	208,699	3,778	14,952	178,279	227,501
$	110,791	145,711	2,568	6,738	121,804	149,200
Rubber tires .... $	252,854	288,590	139,124	134,376	308,931	211,724
Salmon, canned .... cwt.	20,661	13,861	5,333	4,522	10	59
$	214,890	141,764	55,849	47,186	116	691
Newsprint paper .... cwt.	9,128	–	–	–	54,235	58,412
$	29,939	–	–	–	164,676	172,771
Pipe and tubing, iron... $	34,556	35,805	17,306	8,895	12,000	11,075
Farm implements and machinery .... $	122,030	137,416	13,577	10,760	178,025	178,053
Sewing machines .... $	–	–	–	–	116,767	123,139
Automobiles .... No.	3,619	2,628	1,159	1,888	255	438
$	1,482,314	1,163,542	474,803	798,705	123,511	200,399
Totals, Exports (Canadian)[1]... $	**2,403,442**	**2,280,003**	**1,311,267**	**1,795,003**	**1,107,631**	**1,094,771**

27.—Import and Export Trade of Canada with Colombia, Paraguay and Venezuela years ended Mar. 31, 1929 and 1930.[1]

Article.	Colombia.		Paraguay.		Venezuela.	
	1929.	1930.[1]	1929.	1930.[1]	1929.	1930.[1]
Imports for Consumption.						
Coffee, green .... lb.	3,431,509	5,234,074	–	–	655,759	838,957
$	922,056	1,202,184	–	–	154,328	181,863
Petroleum, crude, natural .... gal.	145,347,112	141,016,594	–	–	21,227,341	15,156,433
$	5,926,483	6,045,447	–	–	545,847	324,781
Totals, Imports[1]. $	**6,849,408**	**7,252,691**	**5,589**	–	**701,935**	**528,962**
Exports (Canadian).						
Wheat .... bush.	540,935	457,133	–	–	–	–
$	689,817	595,592	–	–	–	–
Flour of wheat .... brl.	7,439	2,665	–	–	95,019	45,673
$	53,242	18,865	–	–	556,166	262,692
Rubber boots and shoes pair	154,729	121,202	7,500	4,645	150	–
$	104,574	85,761	4,110	2,935	128	–
Rubber tires .... $	148,189	180,197	6,243	9,799	293,648	211,316
Salmon, canned .... cwt.	6,835	2,405	12	–	10,033	9,130
$	78,403	27,484	116	–	107,119	98,786
Newsprint paper .... cwt.	28,314	29,291	–	–	1,262	2,477
$	106,935	105,503	–	–	4,378	6,174
Automobiles .... No.	407	277	161	157	1,591	1,218
$	210,220	136,289	68,545	61,506	612,701	491,234
Aluminium .... $	24,565	35,482	–	143	6,185	7,266
Cement .... cwt	235,648	277,987	–	–	–	–
$	65,492	84,236	–	–	–	–
Chemicals and allied products .... $	19,041	26,624	–	–	110,028	94,990
Totals, Exports (Canadian)[1] .... $	**1,797,393**	**1,643,048**	**98,194**	**75,401**	**1,792,549**	**1,286,943**

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[1] Totals include other items not specified

28.—Import and Export Trade of Canada with Belgium, France and Germany, years ended Mar. 31, 1929 and 1930.

Article.	Belgium.		France.		Germany.	
	1929.	1930.	1929.	1930.	1929.	1930.
Imports for Consumption.						
Walnuts, shelled or not. lb.	–	990	3,243,025	2,508,932	10,125	–
$	–	307	850,124	698,103	2,475	–
Vegetables, canned..... lb.	2,686,390	2,866,159	1,108,331	1,204,791	390	–
$	184,963	214,982	160,448	182,192	51	–
Beans................bush.	119,871	46,293	6,227	18	2,670	1,128
$	346,377	153,448	20,833	161	8,406	4,252
Olive oil, edible........ $	22	–	171,086	152,636	–	–
Brandy..............pf. gal	–	–	344,631	371,080	1	5
$	–	–	2,544,391	2,666,809	9	14
Cordials, liqueurs, etc. pf. gal	281	300	50,540	45,105	4	45
$	1,969	2,241	324,661	271,317	104	431
Wines.................. $	6,265	8,187	2,261,861	1,817,424	49,266	51,143
Essential oils (except peppermint).......... lb.	382	–	41,388	39,453	24,100	16,724
$	5,338	–	118,022	122,371	15,059	12,927
Peanut oil, for refining. cwt.	–	–	–	–	106,730	111,954
$	–	–	–	–	895,096	968,101
Plants, trees, etc....... $	60,948	74,177	90,229	119,956	66,901	45,138
Furs, undressed (incl. marine).............. $	76,893	–	80,860	12,879	308,721	178,872
Furs, dressed.......... $	3,141	–	640,082	448,927	76,793	142,106
Hatters' furs, not on the skin................. $	493,054	533,572	68	185	161,584	141,587
Gloves, of leather...... $	210,413	319,499	598,455	823,682	58,901	87,174
Gelatine.............. lb.	142,368	187,296	365,885	326,307	64,618	160,248
$	22,201	34,616	87,808	79,211	49,071	125,903
Cotton, crochet and knitting............. lb.	–	–	45,820	68,030	332	–
$	–	–	135,877	115,418	609	–
Cotton fabrics, dyed... yd.	165,528	191,117	191,378	218,187	281,195	232,733
$	76,536	85,857	101,278	104,820	141,105	99,544
Woven fabrics with cut pile.................. yd.	93,979	85,650	158,547	74,469	39,466	49,572
$	68,848	66,669	174,351	83,600	39,270	44,084
Lace, net and mfrs. of (cotton)............. $	3,437	5,142	135,502	155,685	104,646	180,660
Clothing of cotton...... $	57,539	86,306	95,863	102,508	55,158	78,618
Flax, hemp, jute, products $	109,951	96,929	191,475	147,628	175,372	178,168
Ribbons, silk, not ex. 12 ins. wide.......... $	879	794	175,300	125,215	13,913	13,432
Woven silk fabrics, unfinished............. $	–	–	433,237	511,068	848	105
Velvets and plush, silk or artificial silk...... yd.	44,154	37,602	702,870	604,272	320,954	245,396
$	65,334	54,142	858,267	822,756	477,749	374,938
Other silk piece goods.. $	3,615	17,720	1,643,699	1,180,494	354,591	340,854
Silk clothing.......... $	55,883	63,700	1,076,910	926,795	48,067	46,753
Worsted tops.......... lb.	40,849	–	150,729	173,115	–	–
$	36,404	–	148,188	158,738	–	–
Woollen yarns.......... lb.	18,836	16,874	110,087	106,604	2,079	1,241
$	30,128	21,121	129,407	95,382	3,529	2,010
Woven fabrics, wool, unfinished.........sq. yd.	298,273	283,331	1,307,212	946,655	482	914
$	111,733	100,696	577,459	362,464	219	836
Woven fabrics, not ex. 5 oz., n.o.p............ yd.	62,752	24,963	496,871	389,418	1,871	2,703
$	25,491	13,310	316,435	223,823	1,669	3,490
Worsteds, serges, coatings yd.	14,602	9,232	1,146,950	901,899	454,681	389,565
$	15,868	9,782	1,549,388	1,146,946	566,863	503,989
Tweeds................ yd.	4,219	1,099	127,993	62,485	148,512	86,582
$	4,801	2,315	201,320	94,611	167,719	100,411
Woven fabrics, wool, n.o.p. yd.	35,079	12,334	673,847	576,417	252,427	231,902
$	41,766	15,055	781,490	673,278	287,861	271,002
Carpets, wool.......... $	90,010	141,136	268,795	201,593	159,846	93,655
Artificial silk rovings, yarns, warps......... lb.	49,364	30,158	8,498	28,362	454,608	306.003
$	49,553	30,180	10,783	24,167	471,994	249,431
Artificial silk, fabrics and mfrs............. $	122,262	157,009	741,391	1,536,230	259,500	337,455
Embroideries, lace, etc., mixed................ $	11,583	16,084	283,194	303,516	78,706	170,798
Hats, all kinds......... $	5,373	14,804	271,608	238,342	54,650	49,117
Hat shapes and materials $	14,603	9,787	81,421	71,026	21,660	46,272
Garments, knitted, mixed $	32,364	56,582	96,527	92,983	23,637	37,447
Gloves and mitts, textile $	11,344	13,587	136,302	141,891	848,642	767,404
Furniture, wood........ $	41,062	27,621	109,166	111,486	43,539	52,193

28.—Import and Export Trade of Canada with Belgium, France and Germany, years ended Mar. 31, 1929 and 1930.—continued.

Article.	Belgium.		France.		Germany.	
	1929.	1930.	1929.	1930.	1929.	1930.
Imports for Consumption.—concluded.						
Paper and mfrs. of..... $	165,757	194,916	455,864	414,216	420,383	458,639
Books and printed matter $	81,368	116,924	313,449	369,170	185,704	216,705
Iron, in pigs, ingots, blooms, billets....... $	188,304	63,262	109,326	13,777	183,858	284,766
Iron, rolled in bars, n.o.p. cwt.	429,876	522,057	13,893	17,400	14,448	11,645
$	577,397	731,889	21,060	23,893	23,893	18,482
Wire rods.............. cwt.	737,975	445,828	22,582	61,711	16,078	28,177
$	970,514	631,632	31,236	90,765	24,613	45,576
Rolling-mill products, other................ $	1,333,919	1,839,213	194,437	93,962	143,570	113,340
Wire, iron.............. $	227,386	200,998	634	67	55,371	60,102
Pen knives, jack-knives, etc.................. $	-	-	5,447	9,810	205,500	185,995
Scissors and shears..... $	-	120	970	1,467	101,125	108,479
Machinery............. $	26,700	25,298	110,822	129,168	1,036,546	1,160,952
Tools and hand implements................ $	3,005	3,592	6,308	10,960	297,777	308,361
Guns, rifles, etc........ $	85,374	96,768	2,848	1,211	35,985	47,181
Aluminium and mfrs. of $	4,524	142	115,968	16,009	146,501	126,438
Brass and mfrs. of...... $	15,689	9,859	99,006	131,222	119,658	137,127
Nickel and mfrs. of.... $	4,867	3,265	32,225	41,038	149,044	188,405
Zinc sheets and plates.. lb.	5,478,224	6,471,539	-	506	-	1,126
$	360,210	419,502	-	61	-	329
Clocks and watches.... $	173	507	34,057	37,987	559,826	523,317
Electric apparatus...... $	24,515	22,245	24.796	50,539	53,065	120,080
Tableware of china, etc. $	12,558	9,824	345,618	454,381	437,950	386,697
Glass carboys, bottles, etc.................. $	1,021	1,600	32,543	53,279	131,111	144,070
Glass tableware........ $	111,844	98,745	24,801	44,640	49,708	38,196
Common window glass sq.ft	41,466,756	49,392,001	-	90,800	42,254	287,819
$	1,023,690	1,445,190	-	2,278	5,738	30,620
Plate glass not over 7 sq. ft..............sq. ft.	2,947,685	1,832,100	74,801	82,175	263,881	257,651
$	705,439	457,403	18,041	25,677	57,349	73,388
Plate glass, 7 to 25 sq. ft. sq. ft.	434,583	343,972	4,119	29,410	58,728	93,748
$	129,602	109,694	1,347	9,274	18,512	35,309
Plate glass, n.o.p., not bevelled nor bent...sq. ft.	455,510	580,075	4,535	46,149	129,069	168,718
$	163,027	213,914	1,922	18,899	41,246	84,399
Diamonds, unset....... $	1,337,511	1,590,502	51,373	56,225	13,591	12,421
Acids.................. $	5,790	30,130	10,755	14,408	105,491	121,850
Drugs and medicinal preparations.......... $	6,200	13,055	459,953	459,941	119,334	137,854
Dyes, aniline.......... lb.	788	-	25,564	25,898	797,770	832,239
$	568	-	11,314	7,806	474,678	508,077
Blast-furnace and basic slag, ground......... cwt.	205,296	251,465	44,862	39,700	-	-
$	89,463	162,320	17,956	23,565	-	-
Potash, muriate of, crude cwt.	8,640	24,383	39,986	70,086	201,066	173,380
$	15,507	41,232	72,408	124,358	319,322	307,791
Perfumery............. $	112	309	389,894	349,926	27,975	19,853
Soap................... $	147	220	121,662	132,780	4,310	7,286
Glycerine, for explosives lb.	-	-	-	-	3,303,923	1,347,228
$	-	-	-	-	322,236	110,892
Dolls.................. $	1,203	81	3,964	4,497	229,836	176,350
Toys................... $	3,229	652	33,774	40,126	767,167	795,315
Containers, n.o.p. (packages)................ $	46,749	61,782	280,303	279,098	297,615	315,916
Combs................. $	188	42	11,332	10,019	139,717	150,740
Jewellery.............. $	108	19	132,977	121,449	294,624	308,676
Pocketbooks, etc....... $	2,202	5,536	177,567	167,960	126,496	205,704
Tobacco pipes, cigar holders, etc.......... $	232	2,812	216,412	198,646	49,031	25,735
Mineral waters......... $	859	2,120	121,590	132,491	7,882	10,018
Musical instruments.... $	918	3,748	52,869	46,619	324,150	292,176
Scientific apparatus, etc. $	2,713	654	119,602	121,593	328,298	421,903
Works of art........... $	6,145	1,549	164,189	274,871	26,089	40,531
Feathers, etc., artificial, for hats.............. $	279	205	77,925	34,110	390,058	113,689
Boxes, fancy, ornamental cases, etc..... $	1,927	446	50,759	65,427	171,418	220,337
Pencils, lead........... $	142	-	5,398	1,853	168,033	170,221
Precious stones, n.o.p... $	1,093	-	87,142	77,307	41,927	46,512
Totals, Imports[1].. $	**12,014,538**	**13,019,006**	**26,215,696**	**25,158,207**	**20,797,683**	**21,505,428**

[1] Totals include other items not specified.

28.—Import and Export Trade of Canada with Belgium, France and Germany, years ended Mar. 31, 1929 and 1930—concluded.

Article.		Belgium.		France.		Germany.	
		1929.	1930.	1929.	1930.	1929.	1930.
Exports (Canadian).							
Apples, fresh	brl.	76,404	31,826	3,282	4,696	12,344	986
	$	311,553	127,204	12,826	26,246	51,527	5,569
Apples, dried	lb.	–	5,000	–	–	1,250	1,856,100
	$	–	670	–	–	206	213,133
Barley	bush.	773,783	26,610	–	–	6,097,806	2,429,086
	$	594,492	21,202	–	–	5,228,796	1,947,475
Oats	bush.	2,994,457	999,858	300,883	453,192	936,736	122,541
	$	1,979,856	633,990	222,880	303,668	605,151	71,996
Rye	bush.	42,893	–	–	–	1,902,727	306,352
	$	44,837	–	–	–	2,173,162	321,151
Wheat	bush.	14,869,234	11,906,206	5,170,285	6,346,525	16,002,864	5,523,255
	$	18,762,087	14,779,557	6,720,062	7,980,918	19,798,999	7,147,605
Wheat flour	brl.	4,844	–	2,366	583	1,179,255	817,500
	$	30,887	–	14,104	3,937	6,962,466	4,742,158
Alcoholic beverages	$	21,319	219,579	1,907	3,898	160,832	1,098
Rubber tires	$	353,966	661,905	174,456	177,444	29,061	6,746
Other rubber mfrs	$	54,307	71,124	135,660	249,428	109,368	250,216
Foxes	No.	268	274	232	30	402	975
	$	51,100	25,952	83,575	7,700	114,835	271,352
Fish, fresh	$	3,181	12,276	65,969	58,467	82,355	91,617
Fish, dried, salted, pickled	$	480	480	–	–	282,539	250,298
Lobsters, canned	cwt.	732	1,588	3,142	4,059	476	545
	$	49,042	108,230	201,339	260,827	34,385	43,141
Salmon, canned	cwt.	37,675	28,186	183,445	105,530	1,597	760
	$	473,795	356,249	2,224,031	1,284,262	18,965	9,611
Other fishery products	$	5,675	7,034	7,250	3,364	227,110	237,723
Furs and mfrs. of	$	12,858	3,299	459,548	356,437	497,485	277,414
Cheese	cwt.	1,603	1,469	469	374	2,142	826
	$	35,491	29,329	11,931	9,119	55,407	19,903
Sausage casings	$	–	–	–	–	336,308	301,135
Fibres and textiles	$	19,975	10,276	33,447	47,574	93,979	75,246
Wood, unmfrd. (incl. lumber)	$	43,673	44,399	90,242	74,383	331,575	192,617
Wood-pulp	cwt.	188,176	162,501	374,938	399,473	68,755	50,727
	$	803,417	695,360	1,608,381	1,554,960	295,098	218,138
Harvesters and binders	No.	320	854	2,405	1,530	2,535	998
	$	52,019	137,164	397,339	257,567	418,383	171,082
Mowing machines	No.	192	102	702	1,810	151	54
	$	11,298	5,096	39,301	110,099	8,948	3,157
Ploughs and parts	$	688	466	48,194	118,824	122,823	10,580
Other agr. imp'l'ts and parts	$	13,360	28,424	233,482	293,077	154,703	72,329
Electric vacuum cleaners	No.	–	–	–	–	7,080	7,692
	$	–	–	–	–	325,842	293,538
Adding and calculating machines	No.	250	107	–	–	1,308	661
	$	23,325	10,110	–	–	185,965	110,097
Automobiles, passenger	No.	23	582	–	12	14	10
	$	9,756	240,593	–	12,036	13,945	6,323
Aluminium, in bars, etc.	cwt.	8,801	1,460	–	1,127	3,543	68,810
	$	172,204	29,903	–	25,964	64,527	1,250,045
Aluminium, scrap	cwt.	–	4,484	–	–	11,360	16,981
	$	–	71,939	–	–	189,219	277,283
Copper, blister	cwt.	–	–	–	–	131,505	144,443
	$	–	–	–	–	2,214,150	2,977,173
Lead, in pigs, etc	cwt.	67,523	98,812	143,582	116,590	107,104	98,556
	$	266,581	429,781	571,610	493,503	437,780	441,172
Nickel, fine, and oxide	cwt.	–	8,003	23,827	24,748	15,726	3,284
	$	–	268,948	812,945	809,334	560,179	114,450
Zinc, in ore	cwt.	225,107	168,357	–	74,813	–	43,298
	$	1,438,619	925,968	–	411,471	–	241,019
Zinc, spelter	cwt.	113,268	46,496	98,574	52,485	340,715	80,665
	$	592,289	235,963	507,292	262,818	1,791,382	437,580
Ores, n.o.p. (incl. cobalt ore)	$	–	–	173,650	166,145	242,950	159,347
Asbestos	$	381,194	928,844	558,217	513,605	1,273,091	1,125,909
Coal tar and pitch	gal.	–	–	2,775,860	3,584,353	–	–
	$	–	–	197,691	112,081	–	–
Films	$	43,927	38,890	8,976	43,196	376	1,070
Totals, Exports (Canadian)[1]	$	**27,301,384**	**21,692,858**	**16,131,188**	**16,507,011**	**46,708,804**	**25,343,661**

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[1] Totals include other items not specified.

29.—Import and Export Trade of Canada with Italy, Netherlands and Switzerland, years ended Mar. 31, 1929 and 1930.

Article.		Italy.		Netherlands.		Switzerland.	
		1929.	1930.	1929.	1930.	1929.	1930.
Imports for Consumption.							
Lemons	$	491,911	398,688	-	-	-	-
Other fruits, fresh	$	105,510	133,622	-	-	-	-
Nuts	$	81,849	199,173	-	2,643	-	-
Vegetables, canned	lb.	1,225,240	1,680,269	206,618	266,596	-	-
	$	87,544	144,202	19,076	24,480	-	-
Rice	$	2,590	2,405	90,013	137,031	-	-
Olive oil, edible	gal.	245,561	252,438	-	-	-	600
	$	384,622	363,165	-	-	-	840
Sugar, above No. 16 D.S.	cwt.	-	1	11,000	81,353	-	-
	$	-	8	96,044	167,653	-	-
Cocoa butter	lb.	171	-	3,153,347	5,153,116	-	-
	$	52	-	972,941	1,274,573	-	-
Gin	pf. gal.	-	-	132,017	131,704	-	-
	$	-	-	1,079,941	842,448	-	-
Wines	$	147,801	165,358	401	2,727	2,217	2,166
Essential oils (except peppermint)	lb.	37,312	30,232	7,356	10,067	5,291	8,974
	$	99,851	108,886	12,946	30,069	12,689	15,427
Plants, shrubs, trees, vines	$	208	-	915,253	965,972	40	-
Tobacco, unmfrd	lb.	97,378	84,448	175,949	201,580	-	-
	$	39,169	60,157	213,278	247,306	-	-
Fish, dried, salted, smoked, pickled	lb.	-	1,695	993,387	1,149,837	-	-
	$	-	380	67,176	69,650	-	-
Cheese	lb.	331,276	354,141	199,369	157,314	307,491	300,520
	$	111,745	111,844	41,188	36,639	106,410	111,937
Cotton fabrics, dyed	yd.	397,212	501,504	263,059	333,494	105,822	121,804
	$	152,311	168,661	75,472	103,557	32,546	32,047
Cotton handkerchiefs	$	467	2,758	-	-	298,756	333,834
Cotton lace, net and mfrs. of	$	4,259	3,695	4,703	1,706	67,884	68,403
Handkerchiefs, linen, etc.	$	1,351	1,047	-	-	57,699	85,190
Ribbons of silk	$	1,882	268	403	5	102,277	135,201
Silk fabrics for neckties	$	168,477	182,601	-	-	437,066	411,754
Woven silk fabrics, unfinished	$	4,917	5,509	172	857	565,370	357,233
Silk piece goods, n.o.p.	$	105,763	79,311	25,161	21,325	1,839,591	803,619
Woven fabrics, wool, n.o.p.	yd.	83,471	114,097	25,110	25,378	14,364	9,181
	$	63,035	70,562	48,600	58,808	16,269	10,708
Worsteds, serges, coatings	yd.	109,042	118,937	50,146	69,214	4,365	5,131
	$	67,546	68,594	119,400	151,868	6,006	6,421
Artificial silk rovings, yarns, warps	lb.	84,529	83,999	1,352,754	1,357,599	169,816	201,806
	$	68,118	52,794	1,241,300	1,028,319	149,196	143,334
Artificial silk fabrics	$	82,249	139,635	28,323	20,973	858,668	984,838
Binder twine	cwt.	-	-	112,341	134,944	-	-
	$	-	-	1,020,379	1,235,215	-	-
Straw mfrs., n.o.p.	$	126,762	69,051	3,821	2,640	25,759	55,829
Rags and waste	cwt.	-	11	15,723	17,107	-	-
	$	-	365	115,868	104,554	-	-
Embroideries, lace, etc., n.o.p. (mixed)	$	9,537	48,254	6,242	5,550	66,635	89,694
Hat shapes and crowns	$	101,123	248,653	-	-	7,351	5,793
Hats, felt	$	340,979	369,046	-	-	2,361	1,851
Hats, straw	$	47,119	123,994	-	-	6,031	2,364
Hats, caps, hoods, n.o.p.	$	83,959	133,393	10	-	4,280	4,851
Braids of grass, etc., for hats	$	12,157	4,835	-	-	227,388	291,706
Machinery (except for farms)	$	3,611	4,246	2,270	3,813	106,884	232,445
Lead and mfrs. of	$	-	70	22,119	12,693	-	136,279
Clocks	$	69,992	76,054	164	112	13,636	27,400
Watches	$	-	-	-	-	284,379	244,694
Watch cases	$	-	-	-	-	109,207	104,550
Watch actions and parts	$	-	-	-	-	1,086,299	1,163,171
Incandescent lamp bulbs and tubing for	$	-	-	43,160	45,159	-	-

29.—Import and Export Trade of Canada with Italy, Netherlands and Switzerland, years ended Mar. 31, 1929 and 1930—concluded.

Article.		Italy.		Netherlands.		Switzerland.	
		1929.	1930.	1929.	1930.	1929.	1930.
Imports for Consumption.—concluded.							
Marble and mfrs. of....	$	107,126	128,885	–	–	40	12
Diamonds, unset.......	$	–	–	604,837	533,042	4,938	12,596
Drugs and medicinal preparations..........	$	7,816	7,620	34,636	48,784	26,268	28,712
Aniline dyes...........	lb.	–	92	–	1,484	363,950	316,631
	$	–	62	–	1,079	235,656	213,683
Lithopone.............	lb.	–	–	5,492,150	6,535,502	–	–
	$	–	–	229,025	271,307	–	–
Zinc, white............	lb.	–	–	2,854,481	1,680,520	–	–
	$	–	–	176,472	112,012	–	–
Glycerine for explosives	lb.	–	321,698	396,136	2,655,642	–	–
	$	–	25,464	41,779	216,317	–	–
Paintings..............	$	52,47[illegible]	36,542	64,937	39,266	7,000	662
Totals, Imports[1]..	$	**4,260,325**	**4,963,964**	**9,016,763**	**9,431,484**	**7,917,445**	**7,314,840**
Exports (Canadian).							
Barley................	bush.	68,790	–	2,500,272	804,648	–	–
	$	56,699	–	2,089,173	654,957	–	–
Buckwheat...........	bush.	–	–	136,878	18,368	–	–
	$	–	–	126,998	17,916	–	–
Oats..................	bush.	141,594	–	3,213,434	1,358,746	–	–
	$	96,549	–	2,109,002	887,077	–	–
Rye..................	bush.	–	–	1,360,546	494,866	–	–
	$	–	–	1,569,550	462,131	–	–
Wheat.................	bush.	14,637,285	5,827,018	22,885,033	6,134,829	–	–
	$	19,146,578	7,615,399	28,968,902	7,461,558	–	–
Oatmeal and rolled oats	cwt.	–	–	39,911	15,277	–	–
	$	–	–	196,891	77,697	–	–
Flour of wheat.........	brl.	66,898	12,652	295,808	75,958	–	–
	$	393,861	75,894	1,705,295	370,691	–	–
Oilcake................	cwt.	–	–	32,804	49,356	–	–
	$	–	–	79,498	121,003	–	–
Rubber boots and shoes	pair	32,049	82,482	15,611	13,504	35,043	71,068
	$	60,625	118,781	18,745	19,412	28.534	58,688
Rubber tires...........	$	153,849	140,417	574,818	714,632	169,021	364,272
Codfish, dried.........	cwt.	76,842	79,508	–	–	–	–
	$	701,039	758,681	–	–	–	–
Salmon, canned........	cwt.	32,132	72,981	4,162	1,940	659	367
	$	341,394	825,079	48,800	27,220	8,406	4,973
Milk, condensed and evaporated..........	cwt.	–	65	49,934	48,215	–	–
	$	–	682	488,049	467,576	–	–
Fish oil, n.o.p..........	gal.	–	490	747,345	179,200	–	–
	$	–	196	310,186	72,960	–	–
Wood, unmfrd. (incl. lumber)..............	$	27,921	24,638	131,166	75,062	–	213
Wood-pulp.............	cwt.	171,930	191,918	–	3,353	2,466	4,168
	$	738,816	824,324	–	14,419	10,606	18,109
Paper and mfrs. of.....	$	11,320	4,650	43,529	52,236	8,570	2,700
Farm implements and machinery...........	$	85,110	140,671	159,352	48,155	7,497	5,618
Electric vacuum cleaners..................	No.	–	–	1,392	2,959	–	336
	$	–	–	52,445	114,869	–	13,135
Automobiles, passenger	No.	47	1	35	8	27	–
	$	31,443	2,800	19,273	4,515	16,682	–
Aluminium and mfrs. of	$	263,875	51,525	7,344	21,420	51,094	579,241
Lead, in pigs...........	$	–	–	472,449	324,406	–	–
Nickel, fine, and oxide.	cwt.	7,270	7,758	95,733	88,487	–	–
	$	255,225	269,165	3,276,397	3,066,905	–	–
Zinc, spelter...........	cwt.	560	–	156,311	19,046	–	–
	$	2,907	–	816,698	102,680	–	–
Asbestos and asbestos sand................	ton	3,306	3,168	4,583	2,207	–	–
	$	280,019	290,797	227,529	89,740	–	–
Coal..................	ton	8,893	1,688	9,940	1,933	–	–
	$	56,717	10,368	68,965	12,163	–	–
Films..................	$	151,593	90,840	43,600	32,682	100,202	77,984
Totals, Exports (Canadian)[1]......	$	**23,024,899**	**11,387,294**	**44,366,888**	**15,944,469**	**483,919**	**1,197,480**

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[1] Totals include other items not specified.

30.—Import and Export Trade of Canada with Denmark, Norway and Sweden, years ended Mar. 31, 1929 and 1930.

Article.	Denmark.		Norway.		Sweden.	
	1929.	1930.	1929.	1930.	1929.	1930.
Imports for Consumption.						
Fish—Sardines in boxes box	–	–	7,703,585	8,063,555	16,466	16,450
$	–	–	580,961	648,519	1,522	1,665
Fish—Other preserved or canned............ $	–	566	82,517	71,426	2,338	1,855
Cod-liver oil........... gal.	–	–	65,201	72,051	–	375
$	–	–	67,817	58,780	–	358
Wool, manufactures of.. $	3,966	3,889	156	839	56,227	132,001
Fishing lines and nets. $	336	–	50,843	38,112	–	–
Paper and mfrs. of..... $	–	12	95,934	118,392	129,975	134,161
Iron ore................ ton	–	–	–	–	55,633	58,554
$	–	–	–	–	247,985	266,317
Ferro-manganese....... cwt.	–	–	440	1,120	2,116	4,783
$	–	–	2,650	3,442	25,537	29,575
Rolling-mill products.. $	–	–	–	–	193,908	280,294
Engines................ $	–	–	–	–	113,870	54,845
Cream separators...... $	2,372	5,253	–	–	100,532	129,926
Machinery, except for farms................ $	16,059	4,977	4,061	12,217	332,949	282,204
Saws.................. $	–	–	–	–	42,814	41,937
Other tools............ $	435	–	220	–	99,557	85,334
Vehicles, of iron........ $	–	–	–	–	212,908	127,142
Electric apparatus...... $	3,257	1,496	40	–	124,629	215,881
Stone.................. $	3,118	5,872	6,250	430	32,987	35,104
Potash chlorate........ lb.	–	–	–	–	138,335	688,237
$	–	–	–	–	10,186	53,917
Totals, Imports[1] $	**152,721**	**178,660**	**989,504**	**1,104,935**	**2,185,089**	**2,255,626**
Exports (Canadian).						
Apples, fresh........... brl.	1,758	41,576	8	1,374	7,535	58,208
$	9,143	166,923	99	9,992	30,511	268,406
Barley................bush.	–	–	209,853	–	–	–
$	–	–	175,162	–	–	–
Oats..................bush.	–	–	102,511	–	–	–
$	–	–	66,816	–	–	–
Rye...................bush.	256,409	143,709	1,040,947	223,311	154,602	–
$	283,134	147,660	1,158,103	234,579	159,987	–
Wheat.................bush.	2,158,055	474,993	1,971,243	1,008,899	2,306,946	1,668,800
$	2,010,220	526,537	2,577,336	1,223,982	2,856,780	2,086,853
Flour of wheat......... brl.	352,942	173,953	436,156	245,465	80,929	40,437
$	2,140,801	1,061,768	2,532,794	1,424,931	497,918	236,128
Rubber, manufactures of $	1,005,467	1,603,537	135,589	117,606	457,827	435,035
Foxes.................. No.	–	–	193	205	164	1,553
$	–	–	56,350	66,375	72,300	492,505
Salmon, pickled........ cwt.	36	455	–	500	470	817
$	251	13,168	–	16,077	14,977	21,459
Lobsters, canned....... cwt.	1,036	1,384	275	312	3,622	4,349
$	76,233	93,000	19,886	24,338	250,927	286,155
Leather, upper......... $	3,526	11,923	–	–	59,784	82,928
Meats.................. $	–	–	36,340	56,072	15,308	21,912
Felt, manufactures of .. $	–	–	88,955	85,896	73,123	49,755
Pipe and tubing, iron $	497	71,302	–	164	94,259	140,407
Farm implements and machinery........... $	71,671	157,020	27,547	36,589	59,576	122,161
Automobiles........... No.	25	62	333	90	–	108
$	11,100	29,148	173,466	51,350	–	58,784
Aluminium and mfrs. of $	–	–	2,523	2,443	20,241	215,702
Lead, in pigs, etc...... cwt.	–	11,200	6,330	–	–	–
$	–	48,661	23,295	–	–	–
Electrodes, carbon, etc. $	–	–	122,334	144,000	27,622	57,055
Films.................. $	22,537	29,564	–	214	354	13,647
Totals, Exports (Canadian)[1]...... $	**5,981,035**	**4,108,704**	**7,435,537**	**3,674,985**	**4,765,818**	**4,678,037**

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[1] Totals include other items not specified.

31.—Import and Export Trade of Canada with Irish Free State, Greece and Spain, years ended Mar. 31, 1929 and 1930.[1]

Article.		Irish Free State.		Greece.		Spain.	
		1929.	1930.	1929.	1930.	1929.	1930.
Imports for Consumption.							
Oranges	$	–	–	–	–	28,046	76,951
Currants, dried	lb.	–	–	1,133,495	366,284	5,000	–
	$	–	–	107,272	31,544	544	–
Figs, dried	lb.	–	–	80,760	201,292	101,743	100,820
	$	–	–	5,632	14,546	6,244	4,225
Raisins	lb.	–	–	165,077	103,552	616,988	498,052
	$	–	–	14,894	8,915	98,125	76,078
Fruits, prepared, n.o.p. (except dried)	$	–	2,102	39,417	22,641	243,923	214,734
Nuts	$	–	–	–	–	844,646	870,504
Onions	$	–	–	–	–	128,102	75,541
Spirits, potable	pf. gal.	287	1,090	1,986	1,702	2,555	1,551
	$	4,137	19,827	13,418	9,817	22,900	13,471
Wines, non-sparkling	$	912	2,696	250	337	466,882	469,570
Wool, raw	lb.	58,777	41,518	–	–	–	–
	$	23,906	15,016	–	–	–	–
Wool carpets	$	–	–	169,917	229,175	288	3,017
Wool, mfrs. of, n.o.p.	$	11,945	9,562	84	–	194	–
Cork, manufactures of	$	–	–	–	–	458,563	433,972
Traction engines and parts	$	–	195,369	–	–	–	–
Mercury	lb.	–	–	–	–	–	118,355
	$	–	–	–	–	–	165,523
Salt	cwt.	–	–	–	–	320,535	420,290
	$	–	–	–	–	44,619	48,176
Totals, Imports[1]	$	**58,875**	**267,905**	**370,708**	**374,266**	**2,703,075**	**2,784,059**
Exports (Canadian).							
Barley	bush.	–	163,373	–	–	–	–
	$	–	130,670	–	–	–	–
Oats	bush.	94,115	–	–	–	148,157	–
	$	65,410	–	–	–	88,895	–
Wheat	bush.	1,345,254	350,106	7,481,031	3,901,683	3,113,071	55,155
	$	1,833,211	464,297	9,980,110	4,590,071	4,185,125	78,304
Oatmeal and rolled oats	cwt.	14,947	10,218	–	–	–	–
	$	78,363	63,240	–	–	–	–
Flour of wheat	brl.	263,044	179,412	300,071	123,238	–	–
	$	1,773,570	1,227,637	1,764,332	747,062	–	–
Rubber tires	$	40,976	459	401	11,756	271,089	901,322
Cheese	$	12,459	43,699	–	–	475	555
Planks and boards	M ft.	2,220	9,253	4	3	53	157
	$	75,676	276,218	286	250	2,220	5,969
Wood-pulp	cwt.	–	–	1,196	530	18,429	20,847
	$	–	–	5,142	2,279	79,265	89,637
Match splints	$	55,900	64,000	–	–	–	–
Newsprint paper	$	–	158,894	–	–	–	–
Farm implements and machinery	$	7,638	12,340	45,310	8,778	175,842	91,567
Automobiles	No.	12	–	5	–	1,022	5,243
	$	9,235	–	3,515	–	490,721	2,207,870
Aluminium, mfrs. of	$	–	–	–	4,086	163,527	221,149
Coal	ton	489	1,244	3,973	805	3,221	1,621
	$	3,232	7,528	25,866	5,773	19,512	11,309
Soda and sodium compounds	cwt.	–	–	–	–	10,000	10,000
	$	–	–	–	–	63,242	63,761
Films	$	26,050	84,847	–	–	100	–
Ships	$	–	–	–	–	–	629,868
Totals, Exports (Canadian)[1]	$	**4,144,743**	**2,711,544**	**11,850,771**	**5,387,067**	**5,704,255**	**4,503,231**

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[1] Totals include other items not specified.

32.—Import and Export Trade of Canada with British East Africa, British South Africa and British West Africa, years ended Mar. 31, 1929 and 1930.

Article.	British East Africa.		British South Africa.		British West Africa.	
	1929.	1930.	1929.	1930.	1929.	1930.
Imports for Consumption.						
Pineapples, canned lb.	–	–	482,552	801,717	–	–
$	–	–	39,703	68,551	–	–
Sugar, not above No. 16 D.S. cwt.	74,913	229,372	–	227,050	–	–
$	236,617	695,688	–	629,703	–	–
Sugar, above No. 16, D.S. cwt.	–	367,787	–	–	–	–
$	–	1,191,459	–	–	–	–
Cocoa beans, not roasted. cwt.	–	–	–	–	23,454	40,626
$	–	–	–	–	281,414	395,075
Coffee, green lb.	134,852	279,009	–	–	–	200
$	29,313	56,736	–	–	–	24
Wool, raw lb.	–	14,438	258,732	161,115	–	–
$	–	7,508	119,532	61,533	–	–
Manganese oxide cwt.	–	–	–	–	2,006,313	1,950,292
$	–	–	–	–	940,475	918,448
Diamonds, unset $	–	–	24,042	41,226	–	–
Totals, Imports[1] $	**297,683**	**1,982,243**	**280,267**	**824,025**	**1,226,539**	**1,321,906**
Exports (Canadian).						
Apples, fresh brl.	–	–	8,948	13,657	–	–
$	–	–	44,438	82,127	–	–
Wheat bush.	–	–	1,968,453	669,302	–	–
$	–	–	2,243,050	882,153	–	–
Flour of wheat brl.	1,131	710	65,996	50,915	16,238	29,876
$	8,092	5,280	480,331	378,728	112,854	224,340
Candy lb.	524	2,960	522,190	463,492	–	–
$	151	799	142,704	125,905	–	–
Rubber boots and shoes pair	4,590	3,478	375,671	669,436	3,350	2,975
$	4,067	3,031	222,128	386,016	2,449	2,423
Rubber tires $	169,445	313,359	1,439,498	1,727,886	44,281	23,936
Other rubber $	3,296	3,486	82,214	78,774	–	28
Fish, canned $	10,605	9,897	174,337	230,938	245,416	112,600
Cheese cwt.	–	–	1,801	392	–	–
$	–	–	54,442	12,560	–	–
Binder twine cwt.	–	–	5,942	8,755	–	–
$	–	–	59,061	86,727	–	–
Wood, unmfd. (incl. lumber) $	137	4,099	199,453	380,401	8,182	2,619
Wood, manufactured $	–	–	97,546	75,543	11	437
Paper board (incl. wall board) $	926	819	142,098	107,456	–	–
Newsprint paper cwt.	–	–	261,075	263,551	–	–
$	–	–	841,396	796,976	–	–
Wrapping paper cwt.	–	–	81,586	73,875	–	–
$	–	–	487,857	443,267	–	–
Other paper and mfrs. of $	–	–	59,144	66,206	–	–
Pipe and tubing, iron $	–	–	107,340	158,844	–	–
Farm implements and machinery $	101,061	45,588	1,211,862	1,340,273	–	–
Machinery, except for farms $	1,889	12,574	21,575	70,757	–	–
Automobiles No.	3,022	2,873	7,316	4,823	2,135	1,632
$	1,209,573	1,174,809	2,986,686	2,175,076	768,862	635,946
Automobile parts $	46,195	121,854	251,197	225,186	54,078	78,510
Electric apparatus $	738	1,653	301,396	283,750	120	276
Coal ton	–	–	4,578	13,853	–	–
$	–	–	27,468	84,641	–	–
Totals, Exports (Canadian)[1] $	**1,568,171**	**1,707,167**	**12,231,773**	**10,917,642**	**1,245,818**	**1,083,269**

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[1] Totals include other items not specified.

33.—Import and Export Trade of Canada with British India, Ceylon and Straits Settlements, years ended Mar. 31, 1929 and 1930.

Article.	British India.		Ceylon.		Straits Settlements.	
	1929.	1930.	1929.	1930.	1929.	1930.
Imports for Consumption.						
Pineapples, canned..... lb.	–	68,400	–	32,400	11,364,093	12,317,973
$	–	2,599	–	1,228	518,578	465,265
Coco-nut, desiccated... lb.	32,340	–	2,192,638	3,264,515	–	37,200
$	2,423	–	155,569	195,749	–	2,831
Rice.................. cwt.	111,207	83,377	–	–	–	–
$	265,322	194,985	–	–	–	–
Cocoa beans, not roasted, etc.............. cwt.	–	–	5,689	5,844	–	–
$	–	–	97,631	82,574	–	–
Spices................. $	40,730	167,791	1,129	5,483	305,925	249,791
Tea.................... lb.	11,582,064	11,724,234	6,873,310	6,557,557	–	–
$	3,366,973	2,889,843	2,157,212	2,132,221	–	–
Oils, vegetable, not food $	15,349	16,661	24,818	134,118	1,117	–
Rubber, crude......... lb.	–	–	295,470	187,952	3,120,578	3,104,163
$	–	–	59,799	42,818	587,600	608,220
Hides and skins, raw... $	288,622	30,706	–	–	–	–
Woven fabrics of jute... yd.	73,934,570	80,093,380	–	–	–	–
$	5,588,975	4,957,616	–	–	–	–
Bags of linen, hemp, jute.................. $	43,058	65,081	–	–	–	–
Wool carpets........... $	132,093	149,777	–	–	–	–
Coir and yarn.......... cwt.	4,945	7,142	–	–	–	–
$	30,726	45,378	–	–	–	–
Tin, in blocks.......... cwt.	–	–	–	–	10,788	3,476
$	–	–	–	–	549,448	163,953
Manganese oxide....... cwt.	98,000	–	–	–	–	–
$	57,232	–	–	–	–	–
Mica and mfrs. of...... $	41,269	58,279	–	–	–	–
Precious stones......... $	134,666	73,728	–	1,260	1,273	–
Wax, vegetable and mineral, n.o.p........ lb.	1,457,480	1,903,800	–	–	–	–
$	78,987	103,355	–	–	–	–
Totals, Imports[1].. $	**10,366,548**	**9,032,740**	**2,529,140**	**2,600,423**	**2,015,207**	**1,536,879**
Exports (Canadian).						
Wheat.................bush.	813,926	1,000	–	–	–	–
$	921,000	1,300	–	–	–	–
Rubber belting........ lb.	35,287	51,832	248	–	40,919	66,129
$	12,824	18,650	87	–	16,042	26,343
Rubber boots and shoes pair	645,691	672,440	2,936	3,060	28,100	10,772
$	429,662	423,207	2,839	2,363	19,333	7,818
Rubber tires........... $	1,692,057	1,269,652	153,206	114,679	268,451	314,904
Salmon, canned........ cwt.	4,503	2,934	1,092	2,073	1,897	2,880
$	53,266	34,355	11,796	22,097	20,228	31,270
Artificial silk.......... $	77,196	128,523	–	–	28	753
Wire, iron, woven fencing.................. $	65,420	64,188	–	35	–	145
Farm implements and machinery........... $	12,937	15,322	3,260	2,917	560	1,046
Automobiles, freight... No.	5,498	4,029	399	396	380	310
$	2,381,869	1,623,396	151,851	149,260	157,930	133,812
Automobiles, passenger No.	7,516	2,935	692	199	1,242	875
$	3,006,759	1,261,876	299,299	86,568	501,524	370,409
Automobile parts...... $	297,860	234,082	16,415	17,271	61,736	100,529
Aluminium and mfrs. of $	230,819	570,840	598	109	7,480	9,415
Silver bullion.......... oz.	3,824,126	5,728,881	–	–	–	–
$	2,210,500	2,820,500	–	–	–	–
Zinc, spelter........... cwt.	1,568	37,128	–	–	–	–
$	8,485	161,964	–	–	–	–
Electric apparatus...... $	40,239	52,781	6,248	5,461	18,135	8,449
Medicinal preparations. $	57,002	45,709	2,666	1,254	699	939
Cyanamid............. cwt.	–	37,357	–	39,691	–	–
$	–	66,549	–	68,498	–	–
Totals, Exports (Canadian)[1]..... $	**11,858,436**	**9,116,251**	**661,793**	**486,236**	**1,203,909**	**1,105,228**

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[1] Totals include other items not specified.

34.—Import and Export Trade of Canada with Hong Kong, China, and Japan, years ended Mar. 31, 1929 and 1930.

Article.	Hong Kong.		China.		Japan.	
	1929.	1930.	1929.	1930.	1929.	1930.
Imports for Consumption.						
Oranges $	4,751	3,499	177	85	340,390	361,465
Nuts $	11,238	10,953	996,564	984,230	15,694	11,760
Vegetables, fresh $	38,706	34,284	2,019	2,275	35,336	28,691
Vegetables, canned lb.	354,529	410,389	19,872	17,790	173,854	240,616
$	46,047	39,810	3,596	2,003	47,096	65,229
Pickles and sauces gal.	53,865	48,968	1,226	1,279	91,904	78,587
$	32,258	24,972	736	894	44,463	47,795
Beans bush.	4,402	4,506	75	112	82,981	109,992
$	8,893	8,411	163	149	298,957	333,162
Rice cwt.	139,796	137,872	3,000	6,023	53,518	46,088
$	480,222	453,426	10,353	16,921	261,550	227,222
Peanut and soya bean oil gal.	34,478	30,304	17,875	19,794	335	2,061
$	42,820	31,347	15,447	15,455	445	2,799
Ginger, preserved lb.	210,261	287,137	93,804	183,198	5,621	6,676
$	21,491	26,884	8,836	16,099	664	840
Tea lb.	193,527	177,187	518,614	370,360	3,456,335	3,351,479
$	53,605	45,892	95,723	63,757	632,278	604,373
Beverages, alcoholic $	40,459	32,442	42,691	41,840	87,906	99,055
Peanut oil, for refining cwt.	–	–	–	19,633	–	–
$	–	–	–	138,343	–	–
Plants, trees, etc $	11,926	8,778	1,556	1,485	49,681	44,693
Fish, dried, salted pickled lb.	177,125	175,358	1,040	2,582	118,017	74,427
$	40,550	33,791	157	471	45,040	40,339
Fish, canned $	44,059	41,981	940	891	97,913	152,728
Furs, undressed (incl. marine) $	–	–	306,641	107,522	56,589	8,965
Furs, dressed $	–	308	58,006	47,838	–	–
Bristles, animal lb.	–	–	36,020	50,427	860	501
$	–	–	38,127	63,334	3,423	3,100
Albumen and egg yolk. $	8	556	130,404	166,326	–	–
Eggs, n.o.p lb.	420	–	1,722,692	185,748	–	–
$	13	–	416,662	102,206	–	
Cotton clothing $	13,353	7,466	3,238	1,746	173,265	201,588
Silk and mfrs. of $	13,215	14,259	63,778	160,461	8,145,729	7,288,055
Wool carpets $	178	540	65,276	91,349	94,714	78,765
Fishing lines and nets $	–	–	–	–	43,887	67,992
Furniture of wood $	47,687	23,008	10,000	16,470	13,102	9,103
Paper and mfrs. of $	12,821	11,166	1,614	1,015	27,210	30,827
Books and printed matter $	9,900	5,613	41,974	21,494	19,979	21,155
Brass and mfrs. of $	2,131	1,652	55,240	55,808	13,306	13,779
Nickel and mfrs. of $	13	–	12	150	86,448	90,055
Chinaware and clay products $	6,898	5,062	7,724	9,490	402,772	466,067
Carbolic or heavy oil gal.	–	–	–	–	500,771	339,109
$	–	–	–	–	95,804	56,132
Drugs and medicinal preparations $	42,376	38,812	7,820	7,080	28,747	21,875
Camphor lb.	10	11	–	–	59,571	40,058
$	8	9	–	–	33,115	23,186
Dolls $	50	74	168	40	36,296	52,693
Toys $	342	115	595	1,546	80,295	148,353
Brushes $	2,654	1,385	203	1,443	123,502	202,088
Containers, n.o.p. (packages) $	38,881	31,939	18,251	15,151	157,492	157,274
Buttons $	–	409	3	120	167,953	185,446
Jewellery $	471	460	5,886	3,707	30,418	34,109
Precious stones $	441	519	3,072	4,575	69,439	59,848
Totals, Imports[1] $	**1,402,502**	**1,259,085**	**3,095,296**	**2,972,526**	**12,921,317**	**12,537,253**

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[1] Totals include other items not specified.

34.—Import and Export Trade of Canada with Hong Kong, China and Japan, years ended Mar. 31, 1929 and 1930—concluded.

Article.	Hong Kong.		China.		Japan.	
	1929.	1930.	1929.	1930.	1929.	1930.
Exports (Canadian).						
Wheat.................bush.	3,334	–	7,469,660	2,266,711	21,371,207	8,471,349
$	4,750	–	7,495,998	2,209,498	20,397,748	8,625,542
Wheat flour............ brl.	337,594	237,149	2,181,855	1,576,738	45,159	124,474
$	1,725,601	1,141,735	10,001,335	7,183,633	238,413	619,106
Rubber tires.......... $	–	2,808	87,612	59,450	700,045	650,022
Senega root............ lb.	–	–	–	–	68,366	27,075
$	–	–	–	–	86,720	23,983
Fish, dried, salted, pickled.............. $	636,777	494,215	912,798	1,075,565	1,202,903	746,284
Other fishery products. $	11,017	8,893	15,636	14,138	42,818	191,417
Cattle hides........... cwt.	–	–	–	–	8,592	8,249
$	–	–	–	–	156,110	130,692
Leather, unmanufactured................. $	34,983	7,851	53,156	27,371	2,397	68,906
Meats................. $	12,761	7,512	59,920	31,580	19,541	19,892
Butter................. cwt.	32	–	65	61	857	884
$	1,414	–	2,556	2,505	35,712	34,845
Cheese................ cwt.	693	543	703	523	523	720
$	20,959	16,725	20,305	14,805	15,676	24,080
Milk, evaporated and powder.............. cwt.	1,058	717	1,931	1,788	1,221	1,168
$	9,456	6,326	17,799	15,536	42,709	30,149
Felt, manufactures of.. $	1,042	1,293	12,267	15,527	85,521	100,920
Logs..................M ft.	6	–	2,389	1,784	165,773	84,047
$	100	–	26,088	13,831	1,991,621	979,445
Piling (wood)........lin ft.	–	–	171,880	26,960	1,435,667	1,070,275
$	–	–	10,312	2,607	140,620	109,317
Planks and boards....M ft.	394	203	16,236	40,194	87,971	39,031
$	6,990	4,413	322,688	719,578	1,893,722	835,824
Timber, square........M ft.	3	1,048	67	3,616	143,490	147,127
$	70	26,549	1,704	66,577	2,787,158	2,808,431
Wood-pulp............. cwt.	–	–	–	13,450	1,014,980	925,810
$	–	–	–	31,692	2,559,348	2,408,332
Paper and mfrs of..... $	657	8,098	33,155	84,200	601,190	445,579
Scrap iron.............. ton	–	–	28	14	9,032	23,005
$	–	–	355	163	96,345	295,337
Iron bars and rods..... ton	–	–	606	1,206	10,412	2,997
$	–	–	12,480	23,769	287,696	122,710
Iron pipe and tubing .. $	80	5,357	103,013	107,631	22,627	–
Automobiles........... No.	295	242	304	308	21	27
$	117,403	103,337	127,487	140,375	16,369	12,632
Automobile parts...... $	50	–	349	837	14,917	7,244
Aluminium and mfrs. of $	1,991	1,004	11,669	50,126	2,013,469	3,899,458
Lead, pig, refined, etc . cwt.	672	–	89,625	46,315	812,912	701,980
$	2,661	–	378,976	200,742	3,278,464	3,052,406
Nickel, fine, and oxide. cwt.	–	–	–	–	8,692	1,991
$	–	–	–	–	324,814	73,959
Silver bullion.......... oz	–	–	6,710,163	7,322,044	–	–
$	–	–	3,926,030	3,793,779	–	–
Zinc, spelter........... cwt.	–	336	9,354	17,316	275,012	413,995
$	–	1,818	49,727	77,131	1,429,459	1,987,598
Electric apparatus...... $	4,956	1,204	2,935	20,245	74,457	67,582
Asbestos............... $	–	174	–	–	473,350	670,590
Ammonium sulphate .. cwt.	69,393	27,008	21,997	11,917	112,000	170,536
$	152,028	58,603	43,479	23,156	226,706	295,828
Cobalt oxide and salts lb.	–	–	43,400	8,800	32,000	45,000
$	–	–	89,395	18,630	66,300	90,700
Films................. $	330	–	61,218	43,979	384,556	352,600
Totals, Exports (Canadian)[1]..... $	**2,837,463**	**2,000,124**	**24,242,507**	**16,527,959**	**42,099,968**	**30,475,581**

[1] Totals include other items not specified.

35.—Import and Export Trade of Canada with Australia, Fiji and New Zealand, years ended Mar. 31, 1929 and 1930.[1]

Article.	Australia.		Fiji.		New Zealand.	
	1929.	1930.	1929.	1930.	1929.	1930.
Imports for Consumption.						
Apples, fresh.......... brl.	18	–	–	–	3,880	3,870
$	91	–	–	–	25,833	41,838
Grapes................ lb.	42,675	110,293	–	–	1,620	–
$	5,043	12,283	–	–	236	–
Currants, dried........ lb.	4,965,744	3,957,113	–	–	–	–
$	663,723	454,959	–	–	–	–
Raisins................ lb.	1,695,236	6,021,826	–	–	–	–
$	240,348	717,544	–	–	–	–
Pineapples, canned..... lb.	108,000	65,892	24,430	–	–	–
$	4,827	3,360	2,105	–	–	–
Fruits, canned, other... lb.	1,307,219	2,964,745	–	–	–	–
$	93,282	220,581	–	–	–	–
Fruits, prepared, other (including fruit pulp). $	2,470	27,066	–	–	–	–
Onions................. $	18,477	22,881	–	–	28,980	26,911
Sugar, not above No. 16, D.S................ cwt.	70,560	14,400	1,673,006	1,155,355	–	–
$	269,402	34,443	5,694,079	3,669,572	–	–
Sugar, above No. 16, D.S................ cwt.	133,114	186,500	–	–	–	–
$	481,457	496,100	–	–	–	–
Wines................. $	27,344	45,201	–	–	–	–
Gums, Australian, copal, kaurie, etc.......... cwt.	–	–	–	–	4,289	4,859
$	–	–	–	–	34,584	34,833
Seeds................. $	27	–	–	–	24,667	60,180
Hides and skins, raw, calf.................. cwt.	362	697	–	–	2,247	2,370
$	11,258	9,271	–	–	82,922	60,356
Hides and skins, raw, cattle................ cwt.	15,732	20,048	–	–	16,298	8,738
$	318,629	279,469	–	–	336,809	125,893
Hides and skins, raw, sheep................ cwt.	37	435	–	–	862	295
$	1,110	8,890	–	–	27,719	9,123
Beef, fresh............ lb.	1,159,334	1,889,507	–	–	1,875,609	2,151,325
$	97,895	169,838	–	–	140,755	168,669
Mutton................ lb.	2,941,963	4,350,564	–	–	487,121	129,546
$	377,883	534,142	–	–	50,365	11,581
Canned meats......... lb.	70,303	45,350	–	–	232,743	157,740
$	11,104	6,891	–	–	26,670	26,637
Butter................. lb.	221,760	856,912	–	7,840	24,730,851	39,744,816
$	93,268	357,893	–	2,544	8,685,257	13,620,125
Cheese .... lb	–	–	–	–	399,007	304,337
$	–		–		76,819	54,491
Grease, rough, for soap and oils............. cwt.	6,378	12,733	–	–	7	–
$	52,064	101,022	–	–	35	–
Gelatine.............. lb.	400,666	390,902	–	–	44,800	–
$	95,614	98,905	–	–	10,902	–
Sausage casings........ $	1,999	663	–	–	1,919,900	1,326,817
Wool, raw............. lb.	274,987	463,276	–	–	3,242,830	1,960,568
$	136,461	266,057	–	–	1,163,735	612,724
Hair, of the camel, alpaca, goat, etc...... lb.	600	–	–	–	26,529	18,037
$	210	–	–	–	9,212	6,212
Worsted tops.......... lb.	243,976	223,360	–	–	–	–
$	272,126	218,686	–	–	–	–
Vegetable fibre, n.o.p.. cwt.	–	–	–	–	7,634	3,060
$	–	–	–	–	49,018	23,637
Lumber, dressed one side, n.o.p........... $	19,822	14,745	–	–	–	–
Articles re-imported.... $	126,502	2,762	92	–	9,867	5,814
Ships' stores, n.o.p..... $	4,629	6,038	977	4,275	27,045	18,950
Settlers' effects........ $	5,652	4,607	50	–	4,543	3,250
Totals, Imports[1].. $	**3,484,836**	**4,211,351**	**5,697,912**	**3,676,604**	**12,771,194**	**16,282,719**

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[1] Totals include other items not specified.

35.—Import and Export Trade of Canada with Australia, Fiji and New Zealand, years ended Mar. 31, 1929 and 1930—concluded.

Article.		Australia.		Fiji.		New Zealand.	
		1929.	1930.	1929.	1930.	1929.	1930.
Exports (Canadian).							
Apples, fresh	brl.	–	–	264	259	8,400	12,428
	$	–	–	1,340	1,551	47,033	68,245
Vegetables, canned	lb.	42,046	90,262	8,199	3,216	367,934	798,794
	$	3,673	7,861	761	345	27,495	67,503
Wheat	bush.	–	–	–	–	52,116	130,002
	$	–	–	–	–	87,097	219,391
Wheat flour	brl.	204	–	99	–	63,982	53,882
	$	1,129	–	488	–	453,447	391,840
Corn starch	lb.	–	–	–	–	1,059,020	1,079,826
	$	–	–	–	–	55,479	57,335
Confectionery, all kinds	$	33,469	16,558	27	–	147,125	181,815
Rubber, manufactures of	$	394,398	265,431	58,427	72,117	3,848,397	3,631,284
Seeds	$	988	1,867	–	–	45,008	60,697
Fish, canned	$	1,968,719	2,312,678	70,976	96,127	560,292	633,231
Furs and mfrs. of	$	13,439	30,479	–	–	27,363	62,502
Leather and mfrs. of	$	510	1,051	–	–	125,487	152,055
Cotton, manufactures of	$	5,104	19,958	2,486	2,096	112,521	148,188
Corsets and brassieres	No.	17,313	5,913	–	–	64,646	83,243
	$	35,696	14,537	–	–	71,351	81,557
Gloves and mitts (textile)	$	180,309	176,645	–	–	18,743	30,370
Socks and stockings	$	12,963	9,486	962	1,599	325,874	565,500
Wood, unmfrd. (incl. lumber)	$	826,856	1,594,207	82,447	136,216	425,460	476,530
Wood-pulp	cwt.	3,093	–	–	–	24,095	21,619
	$	7,307	–	–	–	61,689	85,928
Paper board, incl. wall board	$	30,252	57,265	–	–	59,515	77,721
Paper, printing	cwt.	1,097,988	1,273,830	382	134	391,062	461,690
	$	3,950,972	4,064,355	1,882	608	1,424,524	1,456,611
Paper, wrapping	cwt.	24,023	29,238	524	683	32,467	35,466
	$	142,967	174,084	2,650	3,457	210,435	233,496
Paper, hanging or wall	roll	302,826	320,070	–	–	264,975	314,790
	$	49,095	67,150	–	–	42,099	52,102
Books and printed matter	$	16,902	31,444	1,236	780	41,471	56,524
Iron bars and rods	ton	–	3	–	–	10,413	10,517
	$	–	153	–	–	379,688	375,736
Structural steel	ton	–	–	–	–	75	1,559
	$	–	–	–	–	9,739	122,179
Iron pipe and tubing	$	362,165	345,329	–	–	300,251	295,903
Wire, iron	$	59,593	50,947	–	–	470,295	447,724
Farm implements and machinery	$	1,487,313	969,304	583	2,869	268,350	307,553
Razors	$	375,613	280,052	416	725	64,584	132,076
Nails, spikes, tacks of all kinds	cwt.	1,761	2,014	3	–	37,348	35,939
	$	17,972	20,157	25	–	148,020	149,357
Machinery, except for farms	$	78,124	102,392	427	6,056	208,115	251,424
Tools	$	5,093	5,446	5,574	5,768	92,012	107,478
Automobiles	No.	23,198	10,551	173	133	9,642	11,149
	$	7,204,967	3,483,301	73,317	61,044	4,787,504	5,506,791
Automobile parts	$	714,581	652,355	8,553	5,954	368,473	441,558
Electric apparatus	$	298,313	307,478	1,360	2,521	677,503	764,076
Asbestos	$	106,417	146,184	–	–	1,859	905
Coal	ton	21,472	23,350	–	–	7,458	5,347
	$	178,165	193,645	–	–	43,625	34,802
Plaster of Paris	$	3,399	2,996	–	–	58,171	96,656
Medicinal preparations	$	19,713	40,988	20	48	52,374	61,912
Musical instruments	$	186,639	142,836	280	206	163,693	186,473
Totals, Exports (Canadian)[1]	$	**19,470,305**	**16,322,771**	**329,797**	**431,211**	**17,357,763**	**19,166,488**

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[1] Totals include other items not specified.

Subsection 10.—Comparison of the Volume of Imports and Exports.

NOTE.—Further information as to the methods adopted in making the following analyses will be found on p. 824 of the Bureau's Annual Report on the Trade of Canada for the fiscal year ended Mar. 31, 1930.

The statistics of the external trade of Canada have not, until lately, been analysed in detail to reveal the physical volume of external trade as well as the dollar value of that trade, and have therefore been somewhat misleading when used to show the physical growth of production and external trade. When, for example, Table 1 of this chapter is examined, it seems to show stagnation in our external trade between the early 70's and the middle 90's of the last century, and an extremely rapid growth thereafter. Yet we know that the stagnation was partly due to the fall in general prices between the '70's and the middle '90's, while the rapid growth of the last generation is exaggerated by the rise of prices since 1897 and more particularly since 1914. Thus the figures as published give us no true measure of the volume of our external trade, yet it is the volume, rather than the value of the commodities that satisfy human needs, with which the masses of the population are more intimately concerned. Volume is, from many points of view, a more important consideration than value, and it is desirable to secure a record of the fluctuations in the volume of the country's trade as distinguished from the value thereof. This is what is attempted in the following table.

The method adopted for ascertaining the fluctuations in volume has been to take a base year—1926—and to re-value the quantities of each commodity imported or exported in any given year at the average import or export value of that commodity in the standard or base year. Where quantities are not available, the values of items are assumed to have moved in the same direction and in the same proportions as closely related commodities. For this reason the results must not be regarded as of great precision, but since the value of goods not returned by quantity, and of those not comparable over a limited series of years, is small in comparison with the total trade, the amount of error introduced on their account is not considerable. By this method it is comparatively easy to compare the volume of the trade in a particular year with that in a recent year, and the margin of error is fairly small. When, however, a comparison of the volume of trade in a particular year with that of another year ten or more years before is undertaken, the margin of error is very much greater. Certain new commodities have come into existence in the course of the decade, while the qualities of others have been materially changed; further, various new items have been added to the customs classifications, and it is not always possible to say just what customs items of 1930 correspond with those of 1914. For these reasons comparisons with the pre-war fiscal year ended 1914 have been discontinued since 1929. The comparison for 1929 and certain previous years appeared on pp. 581-583 of the 1930 Year Book.

In Table **36** the value and volume of imports and exports respectively for the years 1924, 1925, 1927, 1928, 1929 and 1930 are compared with 1926, for the main groups, with the addition of index numbers showing the movements in declared values, average values, and physical volume. For an analysis in greater detail dealing similarly with sub-groups and principal commodities imported and exported, the reader is referred to pp. 824-837 of the Annual Report on the Trade of Canada for 1930, published by the Dominion Bureau of Statistics.

In the table which follows, the imports and exports respectively for the fiscal years 1924 to 1930 are first shown by main groups at the actual values at which the trade was recorded. The same imports and exports are then shown at the value they would have amounted to if the average price or unit value had been the same in each year as it was in 1926. In other words, the figures on the basis of 1926 average values enable a comparison to be made of the imports or exports for the given years on the basis of variations in quantity only, variations due to different prices having been eliminated. Index numbers of declared values, that is, the total declared value of the imports or exports in each year expressed as a percentage of 1926 are then given. This is followed by the index numbers of average values, which show the prices at which goods were imported or exported in each year expressed as a percentage of the price in 1926. Finally, the index numbers of physical volume show the relative quantity of merchandise imported or exported in each year expressed as a percentage of the quantity of the same merchandise in 1926.

This analysis shows that, while the total declared value of imports was low in 1924 and 1925, increasing steadily to a high point in 1929 with a slight recession in 1930, the physical volume of imports was higher in 1930 than in any other fiscal year, due largely to the steady decline in average value or import prices from a high point in 1924 to the lowest point in 1930. In the case of exports, on the other hand, changes in both volume and value have been much more erratic. Average values or prices of exports were higher in 1930 than 1929 and were at their highest point for the fiscal years given in 1926. Thus the large actual decline in the total value of exports in the fiscal year 1930 as compared with 1929 was entirely due to diminished quantities. Indeed, had it not been for a slight improvement in the average price at which merchandise was exported, the decline in 1930 would have been somewhat greater. The physical volume of exports was greatest in the fiscal years 1926 and 1929 and lowest in 1925. It should be noted that the decline in the physical volume of exports in 1930 was entirely due to the reduced quantities of agricultural and vegetable products and of animals and their products exported. The volume of exports in all other main groups of commodities was maintained at a very high level.

36.—Comparison of the Value and Volume of the External Trade of Canada, by Main Groups, for the fiscal years ended Mar. 31, 1924-1930.

IMPORTS FOR CONSUMPTION.

Main Group.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	Values as Declared. (In thousands of dollars.)						
Agricultural and Vegetable Products	186,469	173,586	203,417	213,098	238,186	233,130	227,049
Animals and Their Products	45,027	41,492	49,186	53,214	65,790	71,662	69,854
Fibres and Textiles	173,796	165,441	184,762	183,584	186,994	206,439	185,241
Wood and Paper	40,977	38,185	40,403	47,962	51,751	59,215	60,951
Iron and Its Products	173,474	134,684	181,197	229,429	259,575	346,616	316,879
Non-Ferrous Metals	43,432	41,112	47,693	52,748	60,190	75,438	87,950
Non-Metallic Minerals	155,899	131,013	139,034	156,785	153,049	166,964	186,496
Chemicals and Allied Products	26,088	24,760	28,404	31,845	33,572	37,723	39,908
Miscellaneous	48,205	46,659	53,233	62,227	59,849	68,492	73,946
Totals	893,367	796,932	927,329	1,030,892	1,108,956	1,265,679	1,248,274
	On the Basis of 1926 Average Values. (In thousands of dollars.)						
Agricultural and Vegetable Products	180,952	181,231	203,417	229,314	257,896	289,030	293,907
Animals and Their Products	51,196	43,707	49,186	56,931	62,257	66,545	69,519
Fibres and Textiles	165,709	168,196	184,762	214,818	218,416	237,405	242,689
Wood and Paper	38,616	38,064	40,403	47,746	51,266	60,373	59,443
Iron and Its Products	155,878	126,550	181,197	240,441	271,057	362,535	350,250
Non-Ferrous Metals	44,845	43,610	47,693	53,431	59,483	77,662	86,075
Non-Metallic Minerals	144,633	132,377	139,034	158,909	171,982	195,930	227,004
Chemicals and Allied Products	27,702	24,413	28,404	32,723	34,096	38,656	41,983
Miscellaneous	46,161	47,099	53,233	66,217	64,349	75,720	84,285
Totals	855,692	805,247	927,329	1,100,530	1,190,802	1,403,856	1,455,155
	Index Numbers of Declared Values. (1926=100.)						
Agricultural and Vegetable Products	91·7	85·3	100·0	104·8	117·1	114·6	111·6
Animals and Their Products	91·5	84·4	100·0	108·2	133·8	145·7	142·0
Fibres and Textiles	94·0	89·5	100·0	99·4	101·2	111·7	100·3
Wood and Paper	101·4	94·5	100·0	118·7	128·1	146·6	150·9
Iron and Its Products	95·7	74·3	100·0	126·6	143·3	191·3	174·9
Non-Ferrous Metals	91·1	86·2	100·0	110·6	126·2	158·2	184·4
Non-Metallic Minerals	112·1	94·2	100·0	112·8	110·1	120·1	134·1
Chemicals and Allied Products	91·8	87·2	100·0	112·1	118·2	132·8	140·5
Miscellaneous	90·6	87·6	100·0	116·9	112·4	128·7	138·9
Totals	96·3	85·9	100·0	111·2	119·6	136·5	134·6
	Index Numbers of Average Values. (1926=100.)						
Agricultural and Vegetable Products	103·0	95·8	100·0	92·9	92·4	80·7	77·3
Animals and Their Products	88·0	94·9	100·0	93·5	105·7	107·7	100·5
Fibres and Textiles	104·9	98·4	100·0	85·5	85·6	87·0	76·3
Wood and Paper	106·1	100·3	100·0	100·5	100·9	98·1	102·5
Iron and Its Products	111·3	106·4	100·0	95·4	95·8	95·6	90·5
Non-Ferrous Metals	96·8	94·3	100·0	98·7	101·2	97·1	102·2
Non-Metallic Minerals	107·8	99·0	100·0	98·7	89·0	85·2	82·2
Chemicals and Allied Products	94·2	101·4	100·0	97·3	98·5	97·6	95·1
Miscellaneous	104·4	99·1	100·0	94·0	93·0	90·5	87·7
Totals	104·4	99·0	100·0	93·6	93·1	90·2	85·8
	Index Numbers of Physical Volume. (1926=100.)						
Agricultural and Vegetable Products	89·0	89·1	100·0	112·7	126·8	142·1	144·5
Animals and Their Products	104·1	88·9	100·0	115·7	126·6	135·3	141·3
Fibres and Textiles	89·6	91·0	100·0	116·3	118·2	128·5	131·4
Wood and Paper	95·6	94·2	100·0	118·2	126·9	149·4	147·1
Iron and Its Products	86·0	69·9	100·0	132·7	149·6	200·1	193·3
Non-Ferrous Metals	94·0	91·4	100·0	112·0	124·7	162·8	180·5
Non-Metallic Minerals	104·0	95·2	100·0	114·3	123·7	140·9	163·3
Chemicals and Allied Products	97·5	85·9	100·0	115·2	120·0	136·1	147·8
Miscellaneous	86·7	88·5	100·0	124·4	120·9	142·2	158·3
Totals	92·3	86·8	100·0	118·7	128·4	151·4	156·9

36.—Comparison of the Value and Volume of the External Trade of Canada, by Main Groups, for the fiscal years ended Mar. 31, 1924-1930—concluded.

EXPORTS OF CANADIAN PRODUCE.

Main Group.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
				Values as Declared. (In thousands of dollars.)			
Agricultural and Vegetable Products.	430,932	443,299	606,059	574,994	555,111	646,514	384,636
Animals and Their Products.........	140,423	163,031	190,976	167,292	165,845	158,757	133,009
Fibres and Textiles..................	8,055	9,712	8,940	7,666	10,904	9,678	9,066
Wood and Paper.....................	273,355	253,610	278,675	284,120	284,543	288,622	289,567
Iron and Its Products................	66,976	57,406	74,735	74,285	62,754	82,257	68,590
Non-Ferrous Metals..................	65,911	90,371	97,476	80,639	90,840	112,778	154,319
Non-Metallic Minerals...............	26,898	20,875	24,713	28,881	25,950	27,402	28,545
Chemicals and Allied Products......	15,438	16,063	17,354	16,204	17,366	19,438	22,468
Miscellaneous........................	17,363	14,700	16,428	18,077	15,036	18,264	20,058
Totals..................	1,045,351	1,069,067	1,315,356	1,252,158	1,228,349	1,363,710	1,120,258
				On the Basis of 1926 Average Values. (In thousands of dollars.)			
Agricultural and Vegetable Products.	565,515	484,426	606,059	590,468	602,371	781,889	452,721
Animals and Their Products.........	156,320	180,252	190,976	173,307	160,560	143,049	127,201
Fibres and Textiles..................	9,059	9,083	8,940	8,528	13,083	10,505	11,327
Wood and Paper.....................	256,061	246,700	278,675	289,748	299,996	308,999	322,835
Iron and Its Products................	62,729	56,298	74,735	74,794	61,319	99,877	91,513
Non-Ferrous Metals..................	79,772	92,018	97,476	82,452	103,167	133,037	163,072
Non-Metallic Minerals...............	26,259	20,504	24,713	28,657	25,439	26,638	33,515
Chemicals and Allied Products......	14,500	15,594	17,354	17,143	20,333	23,824	29,838
Miscellaneous........................	19,730	15,485	16,428	18,588	16,017	20,760	22,952
Totals..................	1,189,945	1,120.360	1,315,356	1,283,685	1,302,285	1,548,578	1,254,974
				Index Numbers of Declared Values. (1926=100.)			
Agricultural and Vegetable Products.	71·1	73·1	100·0	94·9	91·6	10·76	63·7
Animals and Their Products.........	73·5	85·4	100·0	87·6	86·8	83·1	69·4
Fibres and Textiles..................	90·1	108·6	100·0	85·7	122·0	108·3	101·9
Wood and Paper.....................	98·1	91·0	100·0	102·0	102·1	103·6	103·2
Iron and Its Products................	89·6	76·8	100·0	99·4	84·0	110·1	105·3
Non-Ferrous Metals..................	67·6	92·7	100·0	82·7	93·2	115·7	158·5
Non-Metallic Minerals...............	108·4	84·5	100·0	116·9	105·0	110·9	115·5
Chemicals and Allied Products......	89·7	82·6	100·0	93·4	100·1	112·0	129·1
Miscellaneous........................	105·7	89·5	100·0	110·0	91·5	111·2	122·1
Totals..................	79·5	81·3	100·0	95·2	93·4	103·7	85·2
				Index Numbers of Average Values. (1926=100.)			
Agricultural and Vegetable Products.	76·2	91·5	100·0	97·4	92·2	82·7	85·0
Animals and Their Products.........	89·8	90·4	100·0	96·5	103·3	111·0	104·6
Fibres and Textiles..................	88·9	106·9	100·0	89·9	83·3	92·1	80·0
Wood and Paper.....................	106·8	102·8	100·0	98·1	94·8	93·4	89·7
Iron and Its Products................	106·8	102·0	100·0	99·3	102·3	82·4	85·9
Non-Ferrous Metals..................	82·6	98·2	100·0	97·8	88·1	84·8	94·6
Non-Metallic Minerals...............	102·0	101·8	100·0	100·8	102·0	102·9	85·2
Chemicals and Allied Products......	107·3	103·0	100·0	94·5	85·4	81·6	75·3
Miscellaneous........................	88·0	94·9	100·0	97·3	93·9	88·0	87·4
Totals..................	87·8	95·4	100·0	97·5	94·3	88·1	89·3
				Index Numbers of Physical Volume. (1926=100.)			
Agricultural and Vegetable Products.	93·3	79·9	100·0	97·4	99·4	129·0	74·7
Animals and Their Products.........	81·9	94·4	100·0	90·7	84·1	74·9	66·6
Fibres and Textiles..................	101·3	101·6	100·0	95·4	146·3	117·5	126·7
Wood and Paper.....................	91·9	88·6	100·0	104·0	107·7	110·9	115·8
Iron and Its Products................	83·9	75·3	100·0	100·1	82·0	133·6	122·4
Non-Ferrous Metals..................	81·8	94·4	100·0	84·6	105·8	136·5	167·3
Non-Metallic Minerals...............	106·3	83·0	100·0	116·0	102·9	107·8	135·6
Chemicals and Allied Products......	83·6	89·9	100·0	98·8	117·2	137·3	171·9
Miscellaneous........................	120·1	94·3	100·0	113·1	97·5	126·4	139·7
Totals..................	90·5	85·2	100·0	97·6	99·0	117·7	95·4

Section 4.—The Tourist Trade of Canada.[1]

Tourist Expenditures in Canada.—In recent years the tourist trade has become an important source of revenue in certain sections of the Dominion, materially affecting the balance of trade. It represents the economic disposition of national assets in which Canada is particularly rich, namely: its picturesque scenery; its invigorating climate; its opportunities for hunting, fishing and boating, as well as for winter sports—for the exploitation of which a considerable capital expenditure has been made on hotel accommodation, improved highways and other attractions. The expenditure of travellers coming to Canada from other countries on business has the same effect, so far as its influence on the balance of trade is concerned, as the export of additional commodities would have. Indeed, in so far as commodities are sold to tourists travelling in the Dominion, our exportable surplus of such commodities is reduced.

It is impossible to obtain a direct record of expenditures of this kind. Moreover, even a rough estimate of the total is extremely difficult to make, visitors to Canada being of all classes, engaging in widely different activities or forms of recreation, remaining for varying periods, with expenditures undoubtedly ranging from very small to very large amounts.

The tourists who enter Canada may be divided into three classes:—(a) those coming in *via* ocean ports; (b) those entering from the United States in automobiles; (c) those entering from the United States by rail or steamer. In 1929 these classes are estimated, according to recently revised figures, to have expended in Canada $13,794,000, $215,577,000 and about $78,500,000 respectively, or a grand total of approximately $308,000,000.

The Department of National Revenue records the number of tourists entering Canada in automobiles from the United States through each of the ports of entry along the border. Estimating the expenditure of these tourists by provinces according to the provinces in which they entered, gives the following provincial distribution of their expenditure in 1929:—Maritime Provinces, $7,953,000; Quebec, $50,759,000; Ontario, $125,780,000; Manitoba, $2,717,000; Saskatchewan, $1,090,000; Alberta, $1,256,000 and British Columbia, $19,189,000.

On the basis of information collected from Canadian hotels, the following estimates were made of the expenditure of tourists from other countries for hotel accommodation in each of the provinces of Canada during 1927:—Prince Edward Island, $21,000; Nova Scotia, $762,000; New Brunswick, $496,000; Quebec, $9,902,000; Ontario, $7,283,000; Manitoba, $627,000; Saskatchewan, $128,000; Alberta, $1,364,000 and British Columbia, $1,852,000, making a total for Canada of $22,435,000. The total for Canada in 1929 was estimated as $29,000,000. These figures do not include expenditures in tourist camps or private dwellings providing tourist accommodation, although these facilities divert a good deal of tourist trade from the hotels.

Expenditures of Canadian Tourists Abroad.—Canadian tourists visiting other countries travel in the main to the British Isles and other European countries on visits home, or as sight-seers. Again, many of them, especially elderly or delicate persons, go to Florida, Bermuda or the West Indies. These tourists may be classified in the same three classes as those entering Canada. The first class leaving Canada by ocean ports is estimated to have spent $27,214,000 abroad in 1929, while those visiting the United States by automobile expended an estimated amount of $65,055,000, and those visiting the United States by rail or steamer approximately $30,000,000, or a grand total in 1929 of $122,000,000.

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[1] Abridged from studies of "The Tourist Trade in Canada, 1920-1926", and for 1927, 1928, 1929 and 1930, published by the Bureau of Statistics and obtainable on application. These studies contain a full explanation of the methods used in making the estimates.

Summary.—In the years 1920 to 1930 (for the latest year preliminary figures only are available) the total expenditures of tourists from other countries in Canada, as compared with the expenditures of Canadian tourists in other countries, are estimated as follows:—

Year.	Estimated Expenditure of Tourists from Other Countries in Canada.	Estimated Expenditure of Canadian Tourists in Other Countries.	Estimated Excess of Expenditure of Tourists from Other Countries.
	$	$	$
1920	83,734,000	–	–
1921	86,394,000	–	–
1922	91,686,000	–	–
1923	130,977,000	–	–
1924	166,764,000	73,060,000	93,704,000
1925	186,972,000	76,047,000	110,925,000
1926	195,918,000	88,961,000	106,957,000
1927	230,223,000	101,296,000	128,927,000
1928	266,693,000	100,646,000	166,047,000
1929	308,000,000[1]	122,000,000[1]	186,000,000[1]
1930	280,000,000[2]	113,000,000[2]	167,000,000[2]

[1] Revised estimate. [2] Preliminary figures.

It will be noticed that while there has been a steady increase in the amount spent by tourists from other countries in Canada, there has also been an increase in the amount spent by Canadians in other countries. The "favourable" balance accruing to Canada from tourist trade has increased greatly since the war. The statistics demonstrate how valuable an asset to Canada is her tourist trade, the expenditures of tourists in Canada in 1929 constituting an "invisible" export of greater value than any single commodity exported in the fiscal year 1929-30. If the "invisible" import of expenditures of Canadian tourists in other countries is deducted, the balance represents an item still exceeded in value only by the exports of wheat. The further increase of this item in the trade balance depends not only on additional numbers of tourists from other countries, but also on the extent to which Canadians "see Canada first" when they decide to travel.

Section 5.—Balance of International Payments 1920-29.[1]

In recent years much attention has been devoted by economists to the consideration of the balance of international payments, as distinguished from the balance of commodities imported and exported. The balance of international payments is much the wider term. Thus in 1929 Canada's international buying and selling of commodities and services amounted to nearly $4 billions as compared with $2½ billions for the foreign trade in commodities alone, which means that the so-called "invisible" items of our international business accounted for nearly 40 p.c. of the aggregate for all items. Included in these "invisible" items are: tourist expenditures, dealt with in the preceding section; receipts and payments of interest; receipts and payments in freight charges, in remittances of immigrants and emigrants, in charitable and missionary contributions, etc.; and, as a supplementary item evening up accounts, the borrowings and lendings of capital. Many of these items can be only approximately estimated, especially for a country like Canada, lying along a land frontier of some 4,000 miles with the United States, with business relationships and family relationships very closely knit together.

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[1] Taken from a press letter, "Estimated Balance of International Payments for Canada", issued annually by Herbert Marshall, B.A., F.S.S., Chief of the Internal Trade Branch of the Dominion Bureau of Statistics, including explanatory data on the methods followed in computing these statistics.

Nevertheless, it has been considered well worth while to make as close an estimate as possible of the balance of the international payments of the Dominion for 1920 and subsequent years, and the figures for the years 1926 to 1929 are presented in Table **37.** It is expected that with greater experience the technique may be improved, and the margin of error reduced to the minimum.

In 1920 the Dominion's commodity balance of trade was "unfavourable" to the extent of about $24 millions. When the totality of transactions in 1920 is taken into account as far as possible, the excess on the import side of our account was $268 millions, while in 1921 and 1922 the excesses on the same side were $137 millions and $68 millions respectively. (A chief reason for the "adverse" balance in these years was that we were then being repaid amounts advanced to the United Kingdom during the war, there being a net withdrawal from the United Kingdom of $104 millions in 1920, $128 millions in 1921 and $84 millions in 1922.)

In 1923 there was a change, with a surplus of $45 millions shown on the export side, in spite of further repayments of $52 millions by the United Kingdom. The surplus was $108 millions in 1924, $277 millions in 1925, $173 millions in 1926, $51 millions in 1927 and $164 millions in 1928. In these years Canadian insurance companies were purchasing large amounts of foreign securities, Canadians were making additional further direct investments, principally in South America and the United States, and we were buying back from abroad our own securities or purchasing foreign securities, principally on the New York stock exchange. In addition, the Canadian banks increased very largely the sums of money they had abroad on call.

These exports were the result of abundant funds accumulating in the Dominion owing to three causes. In the first place there had come into the country during the war about $1,250 millions through the purchase of our commodities at high prices; this was seeking an investment outlet. In the second place, the large investment of United States capital in the Dominion from 1914 to 1920 was now increasing the nation's output. In the third place, successive large harvests were a foundation of prosperity. These factors, combined, caused an unprecedented accumulation of savings which was used by financial institutions and individuals not only to finance domestic capital needs, but also to avail themselves of opportunities for profitable investment abroad. The prolonged and extravagant "bull" market in the New York and other United States' stock exchanges culminating in the early summer of 1929 and the high interest rates prevailing in those markets attracted enormous sums to the United States from other countries, including Canada. Thus from 1923 to 1928 we had on balance an export of capital to our credit, though at the same time other countries, particularly the United States, continued to invest large sums in the Dominion. The year 1929 appears to have shown a reversal of the net outward capital movement which has been characteristic of Canadian international transactions for the last few years. When all debits and credits are totalled a debit item of $88 millions is necessary to balance the account. This item will be partly accounted for by the errors and omissions which are inevitable in all such calculations. It is believed, however, that some portion of the amount is due to net importation of capital into Canada. This was no doubt due in part to the reduction in commodity exports, which showed an "unfavourable" balance of about $83,000,000 in the calendar year 1929 instead of the surplus of exports of previous years. This reversal of trend in the commodity trade resulted largely from the smaller crop of 1929 accompanied by an unusual marketing situation in which only a small portion of Canada's surplus grain products was exported. The collapse of the United States' stock markets in the autumn of 1929 and the beginning of a return movement of funds employed there was probably another factor in the apparent net inward movement of capital to Canada in 1929.

37.—Estimated Balance of International Payments, 1926 to 1929.

NOTE.—Corresponding figures for 1920-25 are given at pp. 601-602 of the 1929 Year Book.

Item.	1926.		1927.		1928.		1929.	
	Exports, Visible and Invisible.	Imports, Visible and Invisible.	Exports, Visible and Invisible.	Imports, Visible and Invisible.	Exports, Visible and Invisible.	Imports, Visible and Invisible.	Exports, Visible and Invisible.	Imports, Visible and Invisible.
	000 $	000 $	000 $	000 $	000 $	000 $	000 $	000 $
Recorded merchandise exports and imports	1,283,939	1,008,342	1,238,782	1,087,118	1,374,246	1,222,318	1,208,338	1,298,993
Deductions for settlers' effects shown elsewhere and miscellaneous items	11,864	16,873	10,513	14,998	10,510	17,220	11,385	18,630
Net Totals, Merchandise Trade	1,272,075	991,469	1,228,269	1,072,120	1,363,736	1,205,098	1,196,953	1,280,363
Exports and imports of gold coin and bullion and subsidiary coin	79,563	47,126	49,359	44,220	107,613	40,178	51,112	3,746
Unrecorded imports of ships	–	1,000	–	269	–	4,000	–	4,000
Freight payments and receipts (not elsewhere provided for)	91,461	111,941	100,979	120,960	99,469	124,774	95,847	134,026
Tourists' expenditures[2]	195,918	88,961	230,223	101,296	266,693	100,646	299,188	111,301
Interest payments and receipts	66,396	280,419	70,389	286,545	81,847	299,109	90,929	307,017
Non-commercial remittances	15,550	20,509	15,433	22,423	14,421	23,195	15,000	24,000
Expenditures of governments	11,948	10,863	11,850	11,751	11,819	11,030	11,750	11,300
Charitable and missionary contributions	814	1,878	873	1,766	900	1,800	900	1,800
Insurance transactions	15,342	22,198	25,234	24,716	43,963	21,302	45,000[1]	22,000[1]
Advertising	3,143	–	4,482	–	3,858	–	4,000	–
Motion picture royalties	–	3,500	–	3,500	–	3,750	–	3,750
Capital of immigrants and emigrants	9,636	13,396	10,132	11,521	11,250	10,219	11,250	10,493
Export and import of electrical energy	4,600[1]	89	4,798	87	4,000[1]	90	4,075	97
Difference between all exports and imports (representing (a) Canadian capital invested abroad in 1926, 1927, 1928 and outside capital invested in Canada in 1929, (b) errors and omissions)	–	173,097	–	50,847	–	164,378	87,889	–
Grand Totals	**1,766,446**	**1,766,446**	**1,752,021**	**1,752,021**	**2,009,569**	**2,009,569**	**1,913,893**	**1,913,893**

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[1] Approximate. [2] See p. 615 for revised figures of tourists' expenditures in 1929.

CHAPTER XVII.—INTERNAL TRADE.

This treatment of trade within the Dominion commences with a general statement on interprovincial trade. This is followed by sections dealing with the statistics of the grain trade and of the marketing of live stock and animal products. Statistics of cold storage facilities and of commodities in cold storage are next in order. In the latter part of the chapter will be found sections relating to various administrative services connected with trade, including: the payment of bounties; the granting of patents, copyrights and trade marks; and weights and measures, electricity and gas inspection. The concluding section of the chapter deals with the statistics of wholesale and retail merchandising.

Section 1.—Interprovincial Trade.[1]

Canada may be divided into the following five economic regions, each deriving its specific character from the predominant occupations of its people:—

1. *The Eastern Fishing, Lumbering and Mining Region,* comprising the river valley and gulf of the St. Lawrence, together with the Atlantic coast; in other words, the greater part of the Maritime Provinces, the northern part of the province of Quebec (excluding the former district of Ungava), and a portion of northern Ontario.

2. *The Eastern Agricultural and Industrial Region,* comprising the cultivated portions of the Maritime Provinces and of the provinces of Quebec and Ontario. In the latter provinces the cultivated areas extend along the banks of the St. Lawrence, and along the valleys of its tributaries within the Canadian borders.

3. *The Central Agricultural Region,* extending from the Red River valley to the Rocky mountains and from the Canadian-United States boundary to about 56° N. lat.

4. *The Western Fishing, Mining and Lumbering Region,* comprising the western portion of the province of Alberta, the whole of British Columbia and the southern portion of the Yukon Territory.

5. *The Northern Fishing and Hunting Region,* extending from the regions of permanent settlement northwards to the Arctic Circle and from the coast of Labrador to the Pacific and to the Alaskan boundary. This vast region is sparsely inhabited by indigenous nomadic tribes engaged in fishing and hunting for their own support, for exchange with the fur-trading companies, and with individual whalers and traders who visit some parts of the region.

Great differences exist between the products of these various regions; even the fisheries and lumber products of the east are quite distinct from those of

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[1] Revised by G. S. Wrong, B.Sc., Chief of the Transportation Branch, Dominion Bureau of Statistics.

British Columbia. The needs of the people throughout the country are met to a great extent by the exchange of the products of one region for those of another.

Interprovincial trade in Canada had its beginning, many years before Confederation, in the exchange of the furs and lumber products of Quebec and Ontario for the fisheries and mineral products of the Maritimes. Indeed, it was thought at the time of Confederation that the coal fields of Nova Scotia would furnish sufficient fuel for the needs of all the eastern part of the Dominion. Later, the manufacturers of Ontario and Quebec found markets from one end of the Dominion to the other, in exchange for the farm, mineral and other products required by large urban communities and produced principally in western and northern regions. A further stimulus to the trade between east and west over the rocky areas north of lake Superior may result from the recently increased production of the Alberta coal fields and the reduced freight rates.

Thus, while many of the small communities and areas, like the primitive agriculturist, produce only for their own needs and are economically independent, the principle of comparative advantage is seen in the increased trade between the economic regions of the Dominion, a trade which is principally carried on over the railways of the country, but also largely over its waterways. A comparatively new development is the inauguration of sea transport between Eastern Canada and British Columbia *via* the Panama Canal. (See pp. 706-7.)

A monthly traffic report of the railways of Canada is published by the Transportation Branch of the Dominion Bureau of Statistics, and shows, for each province, and for the Dominion as a whole, the total *revenue* freight traffic of all railways, (not the "on company service" freight), divided into 70 classes of commodities. The data also show the quantity of each class that originated and terminated in each province. The reports are of use in computing the imports and exports of each province for each of the 70 classes of commodities. For example, if the total tonnage unloaded in Alberta during 1929, as shown in Table **1**, is deducted from the tonnage originating in Alberta over the same period, the remainder of 4,930,569 tons represents the net exports from Alberta for the year 1929. The comparative figure for 1928 was 7,536,293 tons. These statistics show rail traffic only, a limitation which should be borne in mind in connection with the trade of provinces favoured with facilities for water transportation.

The total revenue freight traffic movement on the steam railways of Canada fluctuates to a certain extent with the yield of the crops and with activity in the mining and construction industries involving heavy movements of low grade freight. The general trend from 1921 to 1928 was upward, increasing from 83,814,436 tons of freight carried in 1921 to 119,227,758 tons in 1928. In 1929, however, a decrease to 114,600,778 tons was reported.

Statements similar to that in Table **1** may be compiled for any of the 70 commodities for which statistics are collected, showing the interprovincial trade by rail in these commodities. For details see "Summary of Monthly Traffic Reports of the Railways of Canada, 1929", obtainable from the Dominion Bureau of Statistics.

1.—Railway Revenue Freight Traffic Movement in Canada and the Provinces, for the calendar years 1928 and 1929.

Province.	Originating in Canada or Specified Province.		Received from Foreign Connections.		Total Freight Carried.	
	1928.	1929.	1928.	1929.	1928.	1929.
	tons.	tons.	tons.	tons.	tons.	tons.
Prince Edward Island	247,706	265,881	30	31	247,736	265,912
Nova Scotia	7,301,688	8,139,341	108,332	123,052	7,410,020	8,262,393
New Brunswick	2,172,083	2,341,755	626,491	735,749	2,798,574	3,077,504
Quebec	12,795,644	13,149,072	4,472,255	5,107,263	17,267,899	18,256,335
Ontario	24,035,564	24,349,436	28,306,774	29,779,932	52,342,338	54,129,368
Manitoba	6,598,800	5,282,661	389,475	361,207	6,988,275	5,643,868
Saskatchewan	11,010,947	6,468,854	478,781	579,246	11,489,728	7,048,100
Alberta	12,594,399	9,834,364	278,712	246,285	12,873,111	10,080,649
British Columbia	7,279,180	7,298,368	530,897	538,281	7,810,077	7,836,649
Totals	**84,036,011**	**77,129,732**	**35,191,747**	**37,471,046**	**119,227,758**	**114,600,778**

Province.	Terminating in Canada or Specified Province.		Delivered to Foreign Connections.		Total Freight Terminating.	
	1928.	1929.	1928.	1929.	1928.	1929.
	tons.	tons.	tons.	tons.	tons.	tons.
Prince Edward Island	259,824	304,056	28,170	3,378	287,994	307,434
Nova Scotia	6,330,687	7,276,511	464,070	518,674	6,794,757	7,795,185
New Brunswick	1,852,271	2,120,536	2,022,831	1,790,582	3,875,102	3,911,118
Quebec	14,287,897	14,257,619	7,962,992	7,006,415	22,250,889	21,264,034
Ontario	36,282,415	35,384,995	24,358,149	21,311,306	60,640,564	56,696,301
Manitoba	5,888,760	5,533,497	235,472	246,641	6,124,232	5,780,138
Saskatchewan	5,203,309	4,889,721	483,972	528,862	5,687,281	5,418,583
Alberta	5,058,106	4,903,795	11,457	3,127	5,069,563	4,906,922
British Columbia	5,529,531	5,575,540	4,600,957	3,751,306	10,130,488	9,326,846
Totals	**80,692,800**	**80,246,270**	**40,168,070**	**35,160,291**	**120,860,870**	**115,406,561**

Section 2.—Grain Trade Statistics.[1]

The Canada Year Book, 1922-23, contained on pp. 581-3 a historical summary of the more important points respecting the shipment, inspection and sale of Canadian grain under the Canada Grain Act, and an outline of the Canada Grain Act of 1925 appeared at p. 1017 of the 1925 Year Book. The 1929 amendments were dealt with at pp. 1047-48 of the 1930 Year Book.[3]

Movement of Canadian Wheat, Crop Year 1928-1929.[2]—A *résumé* of the Canadian wheat movement naturally begins with a description of the crop of the Western Inspection Division. The wheat crop of 1928 marketed in the Western Division during the crop year from Aug. 1, 1928 to July 31, 1929, amounted to 546·1 million bushels. A carry-over of 54·8 million bushels from the previous crop year, together with some minor items, brought the stock of the Western Division to a total for the year of 601·3 million bushels (see the chart on page 623 for particulars). As for distribution, 420·7 million bushels were commercially disposed of, the chief items of which were 180·5 million bushels exported to the United Kingdom and 139·4 million bushels, shipped to the Eastern Division. The direct exports to the United States were 10·0 million bushels and to other countries 65·1 million bushels. The total shipments from the Western Division were thus 395·1 million bushels. The wheat used by the milling companies for the manufacture of flour amounted to about 25·6 million bushels, of which 12·5 million bushels were ground into flour for domestic consumption. The all-rail movement eastward from the Western Division, including shipments to the Ogilvie Flour Mills Co. at Fort William for grindings, was 3·2 million bushels. Lake shipments from Fort William and Port Arthur were 293·4 million bushels, 136·2 million bushels going to Canadian ports and 156·6 million to United States ports. The shipments to Canadian and American ports represented, respectively, increases of 34·6 p.c. and 7·9 p.c. over 1927-28. The principal Canadian lake ports were those of lake Huron and Georgian bay, with receipts of 75·4 million bushels, and Port Colborne with 54·6 million bushels. Among the United States lake ports Buffalo was of chief importance in the handling of Canadian wheat, with receipts by water from Port Arthur and Fort William of 137·7 million bushels. The export of wheat through Vancouver was 95·0 million bushels, as compared with 79·0 million in the previous crop year, and 2·8 million bushels were exported through Prince Rupert. The seed requirements were estimated at 42·6 million bushels, and the stocks at the end of the crop year were 79·2 million bushels.

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[1] Revised by Dr. T. W. Grindley, Chief, Agricultural Branch, Dominion Bureau of Statistics.

[2] For further information see the "Report on the Grain Trade of Canada", issued annually by the Agricultural Branch of the Dominion Bureau of Statistics. [3] See also Chapter XXIX of this volume under "Dominion Legislation —Agriculture".

The Eastern Division received during the crop year not only the eastern crop, estimated at 20·6 million bushels, but also shipments from the West aggregating 140·3 million bushels. The quantity on hand at the beginning of the crop year was 22·8 million bushels, making, with a comparatively small importation from the United States, a total stock entering the Eastern Division of 183·7 million bushels. The distribution included 25·2 million bushels carried over in store into the following year, 80·5 million bushels exported from the St. Lawrence ports, and 11·8 million bushels shipped through the winter ports of Saint John and Halifax. In addition, 83·9 million bushels were cleared for export to the United Kingdom and other countries *via* the United States Atlantic ports. The chief ports concerned with the movement of Canadian grain from both Divisions were New York, with shipments of 55·4 million bushels, Baltimore with 12·9 million, and Philadelphia with 10·3 million.

Total exports from Canada to the United States for consumption amounted to 10·0 million bushels, to the United Kingdom 209·6 million bushels, to other countries 134·8 million bushels; 230·0 million bushels were shown to be shipped *via* Canadian ports and 114·4 million bushels *via* United States ports, after deducting 39·6 million bushels transhipped from Buffalo to Montreal and adding the same to the Canadian movement. Total exports of wheat from Canada during the crop year amounted to 354·4 million bushels.

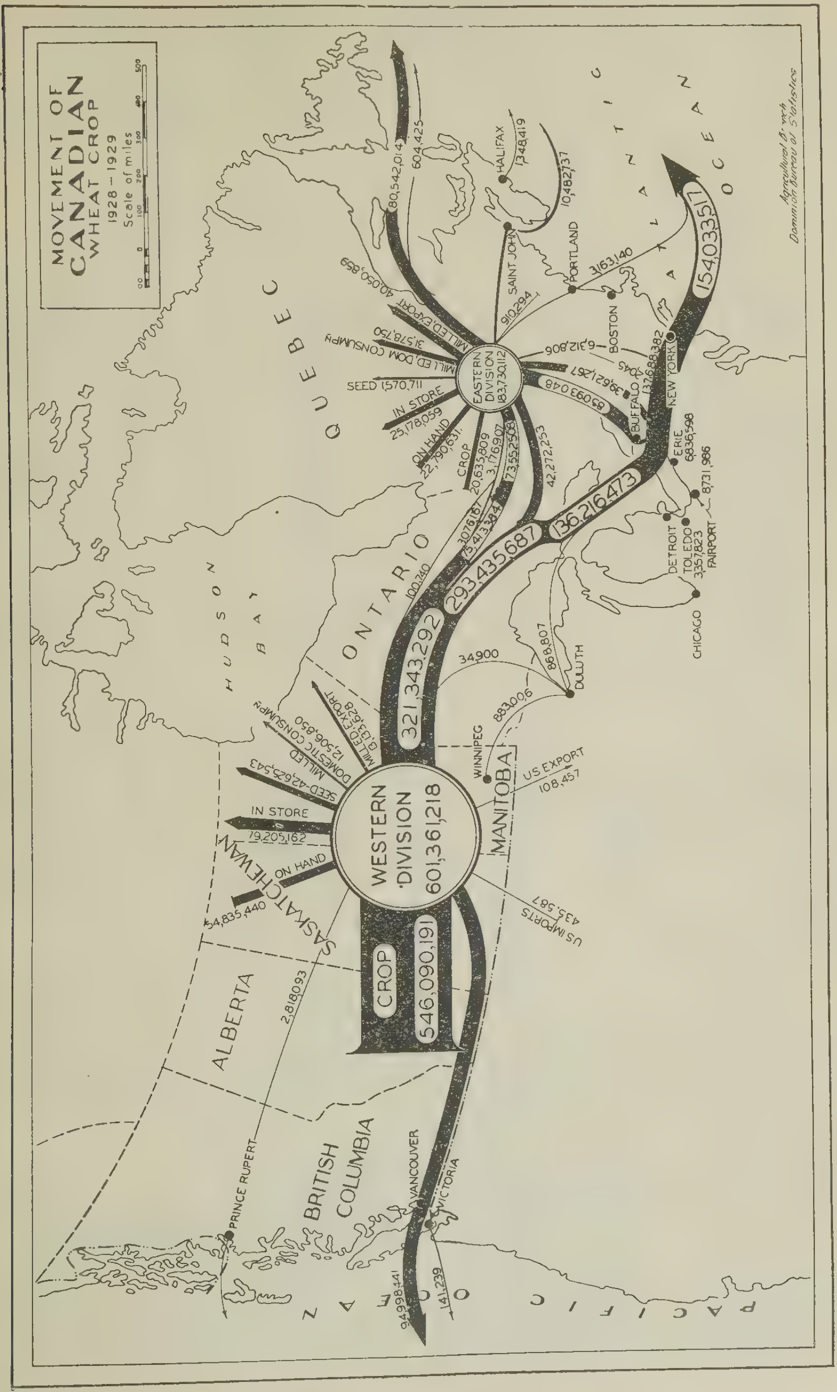
Table **3** shows for the licence years 1929 and 1930 the number of railway stations at which elevators are placed, the number of elevators and their total storage capacity, the figures being given by provinces for each class of elevator, with a summary showing the total of all elevators for each province. The growth of Canadian elevators in number and capacity has accompanied the expansion of grain acreage in the present century. Canadian elevators in 1901 numbered 426 with a capacity of 18,329,352 bushels; in 1911 these had increased to 1,909 elevators and 105,462,700 bushels; and totals of 3,855 elevators and 231,213,620 bushels were reached in 1921. Further increases in the last few years have resulted in a total of 5,787 elevators with a capacity of 394,594,210 bushels in 1930. The latter figure may be compared with an average wheat production of 398,833,000 bushels in Canada in the decennial period 1921-1930.

Table **4** gives summary statistics of the inspections of grain for 1923-29, detailed statistics given in previous Year Books being omitted to save space. The latter may be found in the Reports of the Grain Trade of Canada. Tables **5** and **6** show the shipments of grain by vessel and rail for 1928 and 1929.

Tables **7** and **8** deal with the Canadian grain handled in recent years at public elevators in the east.

2.—Summary of the Distribution of Grain in Canada during the crop year ended July 31, 1929.

Item.	Wheat.	Oats.	Barley.	Flax.	Rye.
	bush.	bush.	bush.	bush.	bush.
1. On Hand August 1, 1928—					
In farmers' hands	4,186,000	20,565,600	1,657,000	5,500	125,000
In public elevators in the East	18,509,083	1,911,906	122,663	-	505,589
In country, private and manufacturing elevators, Western Division	4,602,716	1,540,680	663,156	78,528	76,323
In interior elevators, Western Division	2,329,795	74,343	4,081	46,550	18,942
In Vancouver elevators	3,984,445	21,882	1,683	-	8,502
In Prince Rupert elevators	11,197	-	-	-	-
In public and private terminals, Western Division	24,054,106	2,169,940	569,217	991,749	760,776
In Duluth-Superior	79,000	-	26,000	1,068	10,000
Afloat for unloading at Canadian ports	9,084,745	533,077	142,553	78,995	489,874
In flour mills	6,142,019	792,777	30,396	-	325
In transit	4,642,965	994,755	242,944	93,957	85,609
Totals	77,626,071	28,604,960	3,459,693	1,296,347	2,080,940
2. Crop, 1928	566,726,000	452,153,000	136,391,400	3,614,400	14,617,700
3. Shipped In—					
From U.S.A. and other countries	1,345,881	3,641,167	8,253	558,123	140,965
4. Total annual stocks (sum of 1, 2 and 3)	645,697,952	484,399,127	139,859,346	5,468,870	16,839,605
5. Shipped Out—					
To U.S.A	10,060,239	33,238	12,473	1,934,277	-
To United Kingdom *via* Canadian and U.S.A. ports	209,571,743	4,642,467	30,362,697	1,164	1,646,549
To other countries *via* Canadian and U.S.A. ports	134,792,717	8,152,680	9,772,532	-	4,104,683
Totals	354,424,699	12,828,385	40,147,702	1,935,441	5,751,232
6. Milled consumption	44,085,600	8,068,116	810,894	2,526,272	25,523
Milled export	53,139,487	3,389,414			
7. Totals disposed of commercially (sum of 5 and 6)	451,649,786	24,285,915	40,958,596	4,461,713	5,776,755
8. Used for seed	44,196,254	31,198,692	11,851,084	191,179	1,487,916
9. In Store, July 31, 1929—					
In farmers' hands	5,617,400	26,478,000	3,190,400	5,200	93,400
In public elevators in the East	20,369,859	4,487,037	1,913,220	17,624	1,265,950
In country private and manufacturing elevators, Western Division	6,324,788	3,016,588	1,177,615	73,554	171,695
In interior terminals, Western Division	3,576,643	300,974	9,767	692	954
In Vancouver elevators	5,123,272	108,314	16,428	-	-
In Victoria and Prince Rupert elevators	47,172	-	-	-	-
In public and private terminals, Western Division	47,140,030	8,026,924	4,112.940	337,511	1,971,302
In Duluth-Superior	58,000	16,910	6,000	37,206	23,000
Afloat for unloading at Canadian ports	3,363,869	716,910	241,952	57,000	160,704
In flour mills	7,456,894	1,215,228	48,084	-	-
In transit	5,305,294	798,613	304,451	32,700	532,751
Totals	104,383,221	45,165,498	11,020,857	561,487	4,219,756
10. Totals accounted for (sum 7, 8 and 9)	600,229,261	100,650,105	63,830,537	5,214,379	11,484,427
11. Losses in cleaning	12,808,007	235,119	750,152	340,476	344,977
12. Grain not merchantable	29,641,000	45,114,000	7,308,400	265,000	525,100
13. Balance, merchantable grain fed on farms or otherwise consumed in and moved out of Canada through other channels	3,019,684	338,399,903	67,970,257	−350,985	4,485,101
14. Totals (sum 10 to 13)	645,697,952	484,399,127	139,859,346	5,468,870	16,839,605
15. Amounts inspected	489,636,872	46,419,925	52,565,564	2,991,600	15,860,431
16. Per cent of crops inspected	86·40	10·27	38·54	82·77	-
17. Per cent of commercial grain inspected (line 15 of 10)	81·57	46·12	82·35	59·56	-
18. Commercial grain from season's crop (9 and 7–1–3)	477,061,055	37,205,286	48,511,507	3,168,730	7,774,606
19. Per cent of crops commercial grain (line 18 of 2)	84·18	8·23	35·57	87·67	53·19
20. Values of crops $	451,235,000	210,956,000	76,112,000	5,758,000	11,491,000



Agricultural Branch
Dominion Bureau of Statistics

3.—Number and Storage Capacity of Canadian Grain Elevators in the licence years 1929 and 1930.

NOTE.—Detailed statistics of elevators for the years 1901 to 1918 are given in the 1921 Year Book, pp. 507–509, and the figures for 1919 to 1924 will be found in the 1924 Year Book, pp. 549–550. For 1925 and 1926 see p. 616 of the 1927–28 Year Book, and for 1927 and 1928 see p. 609 of the 1929 Year Book.

Divisions, Elevators and Provinces.	1929.			1930.		
	Stations.[1]	Elevators.	Capacity.	Stations.[1]	Elevators.	Capacity.
	No.	No.	bush.	No.	No.	bush.
WESTERN DIVISION.						
Country Elevators—						
Manitoba	385	746	24,151,900	383	743	24,130,400
Saskatchewan	1,012	3,036	96,185,030	1,067	3,198	104,006,050
Alberta	542	1,559	58,230,500	569	1,707	64,647,000
British Columbia	1	1	15,000	2	2	35,000
Ontario	(1)	1	40,000	(1)	1	40,000
Totals, Country Elevators	1,940	5,343	178,622,430	2,021	5,651	192,858,450
Manufacturing Elevators—						
Manitoba	1 (2)	5	1,362,000	1 (2)	5	1,362,000
Saskatchewan	1 (2)	2	28,000	1 (3)	3	58,000
Alberta	1 (2)	3	710,000	2	3	710,000
British Columbia	4	6	275,150	2	11	826,000
Ontario	(1)	2	195,000	(1)	2	195,000
Totals, Manufacturing Elevators	7	18	2,570,150	6	24	3,151,000
Public Terminal Elevators—						
Saskatchewan	(2)	2	7,000,000	(2)	2	7,000,000
Alberta	(2)	2	5,000,000	(2)	2	5,000,000
British Columbia	1 (2)	2	3,100,000	1 (2)	2	3,100,000
Ontario	(2)	4	22,967,210	(2)	5	29,867,210
Totals, Public Terminal Elevators	1	10	38,067,210	1	11	44,967,210
Private Elevators—						
Manitoba	2 (5)	14	4,015,000	3 (5)	14	4,070,000
Saskatchewan	1 (3)	4	2,510,000	1 (3)	4	4,310,550
Alberta	(3)	17	3,423,000	(3)	15	3,603,000
British Columbia	1 (3)	16	11,007,000	1 (3)	10	14,492,000
Ontario	4	31	65,530,000	4	30	58,630,000
Totals, Private Elevators	8	82	86,485,000	9	73	85,105,550
Totals—Western Division	1,956	5,453	305,744,790	2,037	5,759	326,082,210
EASTERN DIVISION.						
Public Elevators—						
Ontario	11	16	31,500,000	11	16	41,900,000
Quebec	2	7	17,310,000	3	8	22,312,000
New Brunswick	2	3	2,200,000	2	3	2,200,000
Nova Scotia	1	2	1,500,000	1	1	2,100,000
Totals—Eastern Division	16	28	52,510,000	17	28	68,512,000
Grand Totals for Canada	**1,972**	**5,481**	**358,254,790**	**2,054**	**5,787**	**394,594,210**
SUMMARY BY PROVINCES.						
Nova Scotia	1	2	1,500,000	1	1	2,100,000
New Brunswick	2	3	2,200,000	2	3	2,200,000
Quebec	2	7	17,310,000	3	8	22,312,000
Ontario	15	54	120,232,210	15	54	130,632,210
Manitoba	388	765	29,528,900	387	762	29,562,400
Saskatchewan	1,014	3,044	105,723,030	1,069	3,207	115,374,600
Alberta	543	1,581	67,363,500	571	1,727	73,960,000
British Columbia	7	25	14,397,150	6	25	18,453,000

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[1] The figures in parentheses refer to stations which are duplicated elsewhere and are not included in the totals.

4.—Quantities of Canadian Grain Inspected during the crop years ended Aug. 31, 1924, and July 31, 1925-29.

NOTE.—1924—11 months ended July 31. 1925—crop year ended July 31. In 1924 the crop year was changed from Sept. 1–Aug. 31 to Aug. 1–July 31 to conform to the practice of the International Institute of Agriculture.

Grain.	1923–24.			1924–25.		
	Western Division.	Eastern Division.	Total.	Western Division.	Eastern Division.	Total.
	bush.	bush.	bush.	bush.	bush.	bush.
Spring wheat	389,025,756	2,142	389,027,898	214,368,670	465,627	214,834,297
Winter wheat	33,232	260,157	293,389	21,040	1,292,637	1,313,677
Totals, wheat	389,058,988	262,299	389,321,287	214,389,710	1,758,264	216,147,974
Oats	82,987,326	458,991	83,446,317	49,952,025	1,972,333	51,924,358
Barley	19,781,480	112,089	19,893,569	31,899,420	718,776	32,618,196
Flax	5,363,482	–	5,363,482	8,347,925	–	8,347,925
Rye	7,010,966	15,594	7,026,560	5,565,440	171,115	5,736,555
Corn	7,000	19,239	26,239	2,000	16,291	18,291
Buckwheat	9,000	101,634	110,634	50,000	1,093,121	1,143,121
Peas	–	29,839	29,839	–	24,328	24,328
Speltz	2,000	–	2,000	8,000	–	8,000
Screenings	342,000	–	342,000	213,000	–	213,000
Mixed grains	–	–	–	432,000	–	432,000
Totals, Grain	**504,562,242**	**999,685**	**505,561,927**	**310,859,520**	**5,754,228**	**316,613,748**

Grain.	1925–26.			1926–27.		
	bush.	bush.	bush.	bush.	bush.	bush.
Spring wheat	352,509,780	2,302,172	354,811,952	335,994,825	272,832	336,267,657
Winter wheat	25,460	877,184	902,644	26,500	550,888	577,388
Totals, wheat	352,535,240	3,179,356	355,714,596	336,021,325	823,720	336,845,045
Oats	53,693,705	2,864,925	56,558,630	27,463,800	1,830,717	29,294,517
Barley	41,991,000	731,082	42,722,082	40,537,500	7,294,055	47,831,555
Flax	5,865,200	–	5,865,200	4,703,650	–	4,703,650
Rye	5,471,530	136,294	5,607,824	7,849,000	8,664,908	16,513,908
Corn	5,000	5,387	10,387	3,500	–	3,500
Buckwheat	29,000	301,290	330,290	32,000	226,586	258,586
Peas	–	92,283	92,283	–	10,560	10,560
Speltz	6,000	–	6,000	1,000	–	1,000
Screenings	89,000	–	89,000	55,000	–	55,000
Mixed grains	1,068,000	–	1,068,000	930,900	–	930,900
Totals, Grain	**460,753,675**	**7,310,617**	**468,064,292**	**417,597,675**	**18,850,546**	**436,448,221**

Grain.	1927–28.			1928–29.		
	bush.	bush.	bush.	bush.	bush.	bush.
Spring wheat	396,851,400	12,889,583	409,740,983	465,393,810	23,218,666	488,612,476
Winter wheat	308,880	311,247	620,127	856,190	168,206	1,024,396
Totals, wheat	397,160,280	13,200,830	410,361,110	466,250,000	23,386,872	489,636,872
Oats	38,576,160	1,122,381	39,698,541	44,756,500	1,663,425	46,419,925
Barley	27,831,900	2,067,362	29,902,262	51,512,000	1,053,564	52,565,564
Flax	4,116,280	–	4,116,280	2,991,600	–	2,991,600
Rye	12,359,880	8,727,633	21,087,513	8,627,000	7,233,431	15,860,431
Corn	7,500	–	7,500	–	–	–
Buckwheat	8,000	206,498	214,498	1,000	225,572	226,572
Peas	–	5,358	5,358	–	–	–
Speltz	–	–	–	–	–	–
Screenings	127,000	–	127,000	355,000	–	355,000
Mixed grains	1,212,600	1,800	1,214,400	2,550,500	–	2,550,500
Totals, Grain	**481,402,600**	**25,331,862**	**506,734,462**	**577,043,600**	**33,562,864**	**610,606,464**

5.—Shipments of Grain by Vessels from Fort William and Port Arthur for the navigation seasons 1928 and 1929.

Grain.	1928.			1929.		
	To Canadian Ports.	To U. S. Ports.	Total Shipments.	To Canadian Ports.	To U. S. Ports.	Total Shipments.
Wheat.................bush.	139,044,334	171,887,583	311,586,742[1]	73,951,185	83,493,055	157,472,115[2]
Oats.................bush.	22,077,924	747,228	22,825,152	15,158,759	247,621	15,406,380
Barley...............bush.	11,660,552	24,623,080	36,283,632	6,020,377	10,116,206	16,136,583
Flaxseed..............bush.	1,324,539	2,925,290	4,249,829	705,817	677,345	1,470,072[2]
Rye..................bush.	5,622,301	4,493,788	10,116,089	2,525,014	247,224	2,772,238
Oat scalpings..........bush.	–	–	–	2,825,142	716,364	3,541,506
Totals........bush	**179,729,650**	**204,676,969**	**385,061,444**[1]	**101,186,294**	**95,497,815**	**196,798,894**[2]
Screenings........... tons	81,872	117,481	199,713	26,006	40,148	66,154

[1] Includes 654,825 bushels of wheat shipped to Europe direct.
[2] Includes 1 vessel wrecked carrying 27,875 bushels wheat and 86,910 bushels flaxseed.

6.—Shipments of Grain by Lake and All-Rail Routes from Fort William and Port Arthur for the crop years ended July 31, 1928 and 1929.

Grain.	1928.			1929.		
	Lake.	Rail.	Total.	Lake.	Rail.	Total.
Wheat—	bush.	bush.	bush.	bush.	bush.	bush.
No. 1 Hard...............	14,488	–	14,488	–	–	–
No. 1 Northern...........	4,835,228	16,683	4,851,911	5,973,676	9,790	5,983,466
No. 2 Northern...........	31,995,934	416,123	32,412,057	44,638,114	335,926	44,974,010
No. 3 Northern...........	106,353,337	439,700	106,793,037	69,119,679	416,750	69,536,429
No. 4.....................	43,508,482	299,374	43,807,856	55,596,861	739,654	56,336,515
Other grades..............	66,890,713	2,293,811	69,184,524	118,273,693	686,686	118,960,379
Totals, Wheat.........	**253,598,182**	**3,465,691**	**257,063,873**	**293,602,623**	**2,188,806**	**295,790,829**
Oats........................	15,843,368	3,791,264	19,634,632	20,004,607	3,812,279	23,816,886
Barley......................	22,533,957	2,925,850	25,459,807	40,099,393	1,697,210	41,796,603
Flaxseed....................	3,866,635	223,267	4,089,902	2,913,008	98,089	3,011,097
Rye.........................	12,051,514	49,206	12,100,720	6,885,151	52,022	6,937,173
Oat scalpings...............	2,637,324	1,080,402	3,717,726	7,219,666	802,623	8,022,289
Mixed grains................	368,734	50,898	419,632	470,516	21,441	491,957
Totals, Other Grain...	**57,301,532**	**8,120,887**	**65,422,419**	**77,592,341**	**6,483,664**	**84,076,005**

7.—Canadian Grain Handled at Public Elevators in the East, by crop years ended Aug. 31, 1922-1923, and July 31, 1924-1929.

Year.	Wheat.	Oats.	Barley.	Flaxseed.	Rye.	Total Grain.
Receipts—	bush.	bush.	bush.	bush.	bush.	bush.
1921–1922.................	120,870,258	50,187,467	16,365,929	1,170,635	2,270,964	190,865,253
1922–1923.................	195,912,085	32,097,720	14,790,852	501,979	3,418,010	246,720,646
1923–1924.................	223,719,604	49,151,950	15,562,501	653,807	3,377,790	292,468,658
1924–1925.................	153,399,076	51,899,163	15,991,065	1,506,975	6,229,093	232,025,372
1925–1926.................	215,549,103	62,779,106	32,688,079	1,287,532	2,541,379	314,845,199
1926–1927.................	198,210,174	24,508,721	32,791,627	1,638,413	4,078,293	261,227,228
1927–1928.................	208,212,325	27,519,265	17,123,636	2,198,833	10,777,836	265,831,895
1928–1929.................	289,646,130	38,856,198	27,046,998	1,988,872	10,945,419	368,483,617
Shipments—						
1921–1922.................	119,186,498	49,098,234	16,273,586	1,156,145	2,262,807	187,977,270
1922–1923.................	194,426,412	30,625,863	13,832,147	489,529	2,191,775	241,565,726
1923–1924.................	216,711,059	44,512,029	15,297,057	604,501	3,237,745	280,362,391
1924–1925.................	148,380,135	52,213,123	15,333,397	1,449,328	6,059,319	223,435,302
1925–1926.................	205,741,857	57,670,028	31,083,209	1,257,545	2,491,492	298,244,131
1926–1927.................	189,398,463	22,852,198	32,277,421	1,577,210	3,975,862	250,032,400[1]
1927–1928.................	192,649,455	25,415,986	17,014,366	2,119,837	10,268,711	247,468,355
1928–1929.................	270,139,952	34,671,277	25,443,949	1,971,246	9,774,481	342,009,905

[1] Includes 1,246 bushels of buckwheat.

8.—Canadian Grain Handled at Public Elevators in the East, by Classes of Ports, during the crop year ended July 31, 1929.

Ports.	Wheat.	Oats.	Barley.	Flaxseed.	Rye.	Total.
	bush.	bush.	bush.	bush.	bush.	bush.
Lake Huron and Georgian Bay Ports—						
On hand	6,647,708	167,503	–	–	16,370	6,831,581
Receipts—Water	75,413,384	7,660,795	5,571,116	310,874	3,221,392	92,177,561
Totals	82,031,092	7,828,298	5,571,116	310,874	3,237,762	99,009,142
Shipments—Rail	73,552,508	6,656,014	4,938,782	310,872	3,041,035	88,529,211
Water	362,645	–	–	–	–	362,645
Totals	73,915,153	6,656,014	4,968,782	310,872	3,041,035	88,891,856
In store	7,806,698	836,631	396,306	–	196,728	9,236,361
Lower Lake Ports—						
On hand	2,583,309	128,389	1,074	78,995	29,674	2,821,441
Receipts—Rail	2,315,626	143,732	11,267	–	61,452	2,532,077
Water	56,930,643	11,863,270	5,534,847	789,221	2,799,166	77,917,147
Totals	61,829,578	12,135,391	5,547,188	868,216	2,890,292	83,270,665
Shipments—Rail	17,221,608	1,925,934	197,277	156,093	651,400	20,152,312
Water	42,345,258	9,712,913	5,286,590	694,499	2,204,582	60,243,842
Totals	59,566,866	11,638,847	5,483,867	850,592	2,855,982	80,396,154
In store	2,262,709	496,535	63,321	17,623	34,305	2,874,493
St. Lawrence Ports—						
On hand	6,331,477	1,807,372	108,198	1,526[1]	463,077	8,710,124
Receipts—Rail	42,272,253	2,123,113	3,236,716		1,167,474	48,801,082
Water	85,093,048	13,411,062	9,443,061	785,912	1,768,059	110,501,142
Totals	133,696,778	17,341,547	12,787,975	787,438	3,398,610	168,012,348
Shipments—Rail	8,592,760	6,293,508	752,298	787,438	214,223	16,640,227
Water	116,121,788	8,531,949	11,098,331	–	2,576,470	138,328,538
In store	8,982,229	2,516,084	937,344	–	607,917	13,043,574
Seaboard Ports—						
On hand	340	–	–	–	–	340
				Buckwheat		
Receipts—Rail	12,058,342	1,550,962	3,140,719	22,344	1,418,755	18,191,122
Totals	12,058,682	1,550,962	3,140,719	22,344	1,418,755	18,191,462
Shipments—Water	11,941,233	1,550,959	3,136,768	22,344	1,086,613	17,737,917
Rail	2,152	–	3,903	–	158	6,213
In store	115,193	–	44	–	331,985	447,222

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[1] Mixed Grain.

Flour-milling in 1929.—The operating flour and grist mills industry in Canada in 1929 numbered 1,325 establishments, with a capital investment of $67,773,534 and a total daily capacity of 122,727 barrels of flour. The mills were distributed by provinces as shown in Table **9.** Statistics of their employees, value of products, etc., will be found in Table **6** of the chapter on Manufactures on pages 424-429 of this volume.

9.—Flour Mills of Canada, with their Equipment and Capacity, 1929, with Totals for 1928.

Province.	Flour and Grist Mills.	Chopping Mills.	Total Mills.	Rolls.	Stones.	Capacity of Flour Mills.
	No.	No.	No.	pairs.	pairs.	brl. per day.
Prince Edward Island	17	2	19	72	20	553
Nova Scotia	9	11	20	48	7	648
New Brunswick	12	22	34	81	2	701
Quebec	83	278	361	758	157	18,600
Ontario	173	544	717	2,587	47	61,857
Manitoba	28	11	39	552	3	11,845
Saskatchewan	48	18	66	584	13	14,208
Alberta	35	28	63	627	–	13,335
British Columbia	4	2	6	66	1	980
Totals, 1929	**409**	**916**	**1,325**	**5,375**	**250**	**122,727**
Totals, 1928	**423**	**896**	**1,319**	**5,136**	**287**	**120,855**

Section 3.—Marketing of Live Stock and Animal Products.[1]

The estimated value of farm live stock and poultry in Canada in 1930 was $742,077,000, or 117·5 p.c. of the value of field crops grown during the year. In gross value of product the slaughtering and meat-packing industry, which is dependent chiefly on animal husbandry for its materials, has during recent years been one of the most important single manufacturing industries in Canada.

The Canada Year Book, 1922-23, contained on pages 594 and 595 a historical description of the development and present position of the live-stock industry in the Dominion, with statistics of farm animals compiled from the decennial censuses, 1871 to 1921. A summary of this data is given in Table **10**.

10.—Animals in Canada and Animals Killed or Sold by Farmers in Canada, by census years 1871-1921.

Year.	Animals in Canada.			Animals Killed or Sold and Wool Sold.			
	Cattle.[1]	Sheep.	Swine.	Cattle.[1]	Sheep.	Swine.	Wool.
	No.	No.	No.	No.	No.	No.	Lb.
1871	2,484,655	3,155,509	1,366,033	507,725	1,557,430	1,216,097	11,103,480
1881	3,382,396	3,048,678	1,207,619	657,681	1,496,465	1,302,503	11,300,736
1891	3,997,023	2,563,781	1,733,850	957,737	1,464,172	1,791,104	10,031,970
1901	5,576,451	2,510,239	2,353,828	1,085,353	1,329,141	2,497,636	10,657,597
1911[2]	6,526,083	2,174,300	3,634,778	1,752,792[3]	949,039[3]	2,771,755[3]	6,933,955
1921[2]	8,519,484	3,203,956	3,404,730	1,616,626[3]	1,027,969[3]	1,779,257[3]	11,338,268

[1] Figures for 1871-91 do not include work oxen.

[2] Census taken as of June 1, while previous censuses were taken in April, so that a greater number of young animals is included in 1911 and 1921.

[3] Animals slaughtered on farms were not included. The following figures are comparable with data given for the previous years (the 1911 amounts being partly estimated).—

	Cattle.	Sheep.	Swine.
1911	1,915,059	1,097,015	4,282,624
1921	2,097,390	1,217,987	2,972,331

In Table **11** are given statistics showing the numbers of animals on farms for the years 1919 to 1930, expressed as percentages of the average numbers for the quinquennium 1911-1915.

11.—Index Numbers of Animals on Farms in Canada, calendar years 1919-1930.
(Average number for 1911 to 1915 = 100.)

Year.	Animals on Farms.				
	Horses.	Milch Cows.	Other Cattle.	Sheep.	Swine.
1919	130·1	133·6	177·2	163·2	118·5
1920	120·6	132·0	164·5	177·5	103·1
1921	135·2	140·7	175·4	175·3	114·5
1922	129·4	141·0	161·9	155·7	114·8
1923	125·2	137·8	151·5	131·4	129·2
1924	127·3	140·3	155·4	128·1	148·6
1925	126·0	144·2	148·5	131·4	129·8
1926	120·5	144·6	128·3	149·9	127·8
1927	121·4	146·6	143·1	155·6	137·7
1928	119·7	142·8	135·6	162·9	131·9
1929	119·7	138·7	139·3	173·4	128·5
1930	116·9	138·7	142·4	173·6	117·3

Live-Stock Marketings, 1929.—The number of cattle sold at stock-yards showed a decrease of 75,993 and the sales of hogs a decrease of 29,774 in 1929 as compared with 1928. Cattle sold numbered 799,435 in 1929, 875,428 in 1928, 958,872 in 1927, 980,154 in 1926, 967,712 in 1925, 872,932 in 1924, 830,898 in 1923 and 862,203 in 1922. The total numbers of hogs sold were 1,060,542 in 1929, 1,090,316 in 1928, 1,117,555 in 1927, 1,138,533 in 1926, 1,286,154 in 1925, 1,311,362 in 1924, 1,031,656 in 1923 and 835,773 in 1922. Sales of calves increased from 361,222 in 1928 to 378,860 in 1929, and sheep sales increased from 469,172 head in 1928 to 541,470 in 1929.

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[1] Revised by Dr. T. W. Grindley, Chief, Agricultural Branch, Dominion Bureau of Statistics. For more detailed information on this subject see "Live Stock and Animal Products Statistics", published annually by the Dominion Bureau of Statistics, also "Live Stock Market and Meat Trade Review", published annually by the Live Stock Branch of the Dominion Department of Agriculture. See also "Farm Live Stock and Poultry", in Chapter VIII, subsection 3, pp. 230-235 of this volume.

Table **12** shows the receipts for sale at the various stock-yards and the disposition of the live stock sold in 1928 and 1929.

12.—Receipts and Disposition of Live Stock at Principal Markets in Canada, calendar years 1928 and 1929.

Market and Classification.	1928.				1929.			
	Cattle.	Calves.	Hogs.	Sheep and Lambs.	Cattle.	Calves.	Hogs.	Sheep and Lambs.
	No.	No.	No.	No.	No.	No.	No.	No.
Toronto—								
Receipts (Total)	330,335	113,297	264,202	223,844	318,021	117,536	227,720	239,279
Shipments (Total)	327,802	115,212	266,411	224,809	314,821	118,069	230,734	237,166
1. Can. Packing Houses	231,468	57,390	248,499	181,619	236,249	51,667	215,904	199,790
2. Local Butchers	31,634	20,425	13,318	32,235	29,604	18,508	10,670	27,684
3. Country Points	53,701	4,560	4,159	10,955	39,823	4,358	3,967	9,692
4. Other Stock-yards	2,071	8	398	–	1,264	420	193	–
5. U.S. Exports	8,907	32,829	37	–	7,861	43,116	–	–
6. Overseas Exports	21	–	–	–	20	–	–	–
Montreal (Pt. St. Charles)—								
Receipts (Total)	72,357	121,847	201,120	136,415	64,590	138,207	174,788	157,360
Shipments (Total)	82,759	128,014	213,769	150,349	76,320	137,238	190,313	173,522
1. Can. Packing Houses	64,293	65,072	121,981	102,709	60,026	77,357	91,516	120,762
2. Local Butchers	15,297	59,104	91,061	39,355	14,134	57,942	98,230	45,597
3. Country Points	1,274	941	302	3,093	962	441	477	4,478
4. Other Stock-yards	1,321	2,678	425	4,972	945	1,004	90	2,685
5. U.S. Exports	574	219	–	220	253	494	–	–
Montreal (East End)—								
Receipts (Total)	18,695	28,791	35,779	16,220	15,280	29,954	21,883	18,851
Shipments (Total)	18,633	28,073	35,307	15,724	15,280	29,952	22,831	18,845
1. Can. Packing Houses	8,254	7,465	2,743	2,120	9,692	6,233	2,919	5,390
2. Local Butchers	9,245	20,593	32,564	13,422	5,199	23,715	19,865	13,455
3. Country Points	1,032	15	–	182	389	4	47	–
4. Other Stock-yards	102	–	–	–	–	–	–	–
5. U.S. Exports	–	–	–	–	–	–	–	–
Winnipeg—								
Receipts (Total)	260,948	55,587	288,568	45,887	233,302	52,639	281,003	62,178
Shipments (Total)	260,277	53,921	287,559	46,044	232,478	52,203	280,956	61,320
1. Can. Packing Houses	120,514	44,280	202,458	37,464	117,376	35,397	157,976	44,075
2. Local Butchers	2,465	4,345	9,786	1,487	4,385	6,682	18,829	2,721
3. Country Points	59,241	2,765	49,333	7,093	36,394	3,509	45,545	14,524
4. Other Stock-yards	23,142	926	22,790	–	17,754	663	58,606	–
5. U.S. Exports	54,915	1,605	3,192	–	56,569	5,952	–	–
6. Overseas Exports	–	–	–	–	–	–	–	–
Calgary—								
Receipts (Total)	82,228	16,029	102,321	16,526	71,935	15,512	109,526	24,760
Shipments (Total)	97,142	1,113	102,321	16,525	85,436	1,862	109,526	24,700
1. Can. Packing Houses	57,617	988	95,484	12,249	52,351	1,462	101,651	20,868
2. Local Butchers	1,713	69	698	27	2,574	204	422	108
3. Country Points	24,430	53	4,067	4,249	18,637	196	6,213	3,724
4. Other Stock-yards	301	–	–	–	237	–	1,240	–
5. U.S. Exports	13,081	–	2,072	–	11,637	–	–	–
Edmonton—								
Receipts (Total)	67,509	18,011	102,398	11,355	58,082	18,270	122,718	14,573
Shipments (Total)	66,231	18,793	100,856	13,782	59,729	18,322	115,772	14,793
1. Can. Packing Houses	31,831	12,653	73,341	7,520	33,205	15,029	88,141	8,404
2. Local Butchers	3,230	4,245	7,002	3,831	2,349	1,740	5,522	3,024
3. Country Points	20,433	919	11,348	2,331	12,808	705	15,038	3,248
4. Other Stock-yards	745	61	4,800	100	1,069	183	6,816	117
5. U.S. Exports	9,992	915	4,365	–	10,298	665	255	–
Prince Albert—								
Receipts (Total)	11,653	1,664	33,567	1,333	6,488	1,158	25,189	1,063
Shipments (Total)	11,617	1,558	33,576	1,306	6,408	1,087	25,068	923
1. Can. Packing Houses	5,225	1,249	31,801	1,089	3,246	886	15,998	679
2. Local Butchers	167	117	140	39	213	119	151	25
3. Country Points	2,090	69	828	178	1,468	82	1,015	219
4. Other Stock-yards	1,841	108	807	–	755	–	7,904	–
5. U.S. Exports	2,294	15	–	–	726	–	–	–

12.—Receipts and Disposition of Live Stock at Principal Markets in Canada, calendar years 1928 and 1929—concluded.

Market and Classification.	1928. Cattle.	1928. Calves.	1928. Hogs.	1928. Sheep and Lambs.	1929. Cattle.	1929. Calves.	1929. Hogs.	1929. Sheep and Lambs.
	No.	No.	No.	No.	No.	No.	No.	No.
Moose Jaw—								
Receipts (Total)	26,019	3,465	40,932	15,382	23,198	3,981	51,788	20,606
Shipments (Total)	25,976	3,461	40,906	15,212	23,436	3,968	51,754	31,034
1. Can. Packing Houses	16,269	2,778	35,099	6,110	15,165	2,831	41,280	8,952
2. Local Butchers	22	16	711	–	16	75	28	–
3. Country Points	6,352	607	4,672	9,102	4,619	716	6,127	21,988
4. Other Stock-yards	1,215	40	424	–	1,361	48	4,319	94
5. U.S. Exports	2,118	20	–	–	2,275	298	–	–
Saskatoon—								
Receipts (Total)	5,684	2,531	21,429	2,210	8,539	1,603	45,927	2,800
Shipments (Total)	5,680	2,385	21,224	2,403	8,480	1,629	45,355	2,763
1. Can. Packing Houses	1,848	557	14,629	774	4,223	640	32,292	1,578
2. Local Butchers	1,307	690	2,147	786	1,820	838	2,361	699
3. Country Points	969	1,086	3,004	753	853	109	6,609	366
4. Other Stock-yards	1,249	52	1,444	90	891	42	4,093	120
5. U.S. Exports	307	–	–	–	693	–	–	–

The interprovincial and export movement of live stock in 1929 shows a falling-off in cattle and sheep, but an increase in calves and hogs. Total shipments in 1929, with comparative figures for 1928 in parentheses, were as follows: cattle 443,807 (541,483); calves 184,987 (169,234); swine 676,405 (567,364); and sheep 128,839 (144,640). Ontario was the largest shipper in the aggregate, reporting 86,278 cattle, 128,169 calves, 174,643 swine and 17,236 sheep. Saskatchewan was the largest shipper of cattle with 143,168 head and the second largest shipper of swine with 182,171 head; Alberta led in swine and sheep shipments with 231,461 and 27,282 head respectively.

The marketings of live stock through stock-yards by direct shipment to packers, or by export according to provinces of origin for the calendar year 1929 are given in Table **13.** In Table **14** are given the statistics of the grading of animals from five provinces marketed through the stock-yards in 1929.

13.—Live Stock from Several Provinces of Canada, Marketed through Stock-Yards, Packers, etc., calendar year 1929.

Live Stock.	Maritime Provinces.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	Total.
	No.	No.	No.	No.	No.	No.	No.
Cattle—							
Totals to stock-yards	1,942	50,900	332,420	101,787	145,216	150,983	783,248
Direct to packers	–	965	37,589	1,437	9,172	20,953	70,116
Direct for export	3,336	2,345	28,606	711	10,600	22,163	67,761
Totals, Cattle	**5,278**	**54,210**	**398,615**	**103,935**	**164,988**	**194,099**	**921,125**
Calves—							
Totals to stock-yards	9,392	118,634	151,571	28,145	26,605	35,376	369,723
Direct to packers	–	47	20,102	468	2,296	25,663	48,576
Direct for export	473	2,121	34,414	–	339	1,061	38,408
Totals, Calves	**9,865**	**120,802**	**206,087**	**28,613**	**29,240**	**62,100**	**456,707**
Hogs—							
Totals to stock-yards	3,266	53,083	327,119	147,274	246,091	255,905	1,032,738
Direct to packers	36,101	18,238	979,131	74,897	91,556	424,948	1,624,871
Direct for export	424	2	281	–	2	691	1,400
Totals, Hogs	**39,791**	**71,323**	**1,306,531**	**222,171**	**337,649**	**681,544**	**2,659,009**
Sheep—							
Totals to stock-yards	20,863	164,988	224,864	37,549	40,447	54,049	542,760
Direct to packers	3,059	725	50,097	1,293	2,617	19,978	77,769
Direct for export	514	583	2,627	8	–	5,952	9,684
Totals, Sheep	**24,436**	**166,296**	**277,588**	**38,850**	**43,064**	**79,979**	**630,213**
Store cattle purchased	47	2,427	60,781	19,331	10,079	22,480	115,145

14.—Grading of the Live Stock from several Provinces of Canada, Marketed at the Stock-Yards, calendar year 1929.

Live Stock and Grade.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	Total.[1]
	No.	No.	No.	No.	No.	No.
Cattle—						
Steers, 1,200 lb. and up....good........	5	10,114	501	1,856	3,923	16,406
Steers, 1,000-1,200 lb......good........	1,239	28,856	2,707	5,833	11,519	50,244
Steers, 1,000 lb. up........common....	1,682	12,972	1,758	3,905	6,790	27,206
Steers, 700-1,000 lb........good........	502	39,292	4,154	5,758	6,020	55,761
common....	2,916	21,714	2,905	5,074	5,221	38,107
Heifers.....................good........	441	41,634	6,678	9,794	10,795	69,410
medium....	709	15,116	4,788	7,949	7,443	36,049
common....	2,535	16,762	4,260	6,006	5,125	34,990
Cows.......................good........	2,503	27,083	10,920	15,513	17,756	73,843
medium....	9,448	42,016	9,524	11,698	11,106	84,016
Bulls.......................good........	338	4,729	1,822	2,866	2,567	12,325
common....	9,424	10,140	2,559	3,614	2,141	28,317
Canners and cutters.......................	13,987	28,887	7,613	7,835	7,582	66,117
Stockers, under 800 lb.....good........	76	5,124	12,029	18,908	18,309	54,446
medium....	2,385	12,038	15,327	17,655	15,681	63,086
Feeders, 800 lb. up.......good........	60	7,899	8,695	13,267	10,783	40,704
medium....	499	4,963	5,325	6,589	6,465	23,841
Unclassified..........................	2,151	3,081	222	1,096	1,757	8,380
Totals, Cattle..................	**50,900**	**332,420**	**101,787**	**145,216**	**150,983**	**783,248**
Calves—						
Good veal...........................	8,105	62,328	13,218	11,981	16,738	112,438
Common veal........................	49,361	78,721	14,927	14,085	18,451	176,626
Grass................................	61,168	10,522	-	539	187	80,659
Totals, Calves..................	**118,634**	**151,571**	**28,145**	**26,605**	**35,376**	**369,723**
Hogs—						
Select bacon..........................	4,206	77,944	18,929	13,321	16,641	131,263
Bacon.................................	7,259	45,232	11,425	11,531	14,746	90,329
Butchers..............................	6,096	14,116	18,857	35,872	47,554	122,636
Thick smooth..........................	13,501	129,963	45,776	83,321	99,677	373,168
Heavies...............................	3,256	9,940	9,329	21,045	13,553	57,389
Ex. heavies...........................	614	1,191	4,555	9,313	2,415	18,174
Shop hogs.............................	7,215	20,193	8,555	12,654	10,264	59,533
Lights and feeders....................	6,556	10,509	21,045	40,230	25,620	104,282
Roughs................................	163	229	316	834	476	2,045
Sows, No. 1...........................	752	2,480	4,101	10,203	7,201	24,868
Sows, No. 2...........................	838	8,271	3,642	6,048	6,056	25,153
Stags.................................	137	869	481	1,086	515	3,143
Unclassified..........................	2,490	6,182	263	633	11,187	20,755
Totals, Hogs...................	**53,083**	**327,119**	**147,274**	**246,091**	**255,905**	**1,032,738**
Sheep and Lambs—						
Lambs.......Good handy weight....	46,425	160,576	19,869	11,862	27,088	269,795
Good heavy............	28,870	4,102	772	810	2,934	42,256
Common...............	33,743	15,360	9,156	5,049	3,662	74,086
Bucks..................	30,736	18,037	849	602	237	52,751
Sheep.........Good heavy............	255	1,529	863	3,961	2,335	8,976
Good handy weight.....	3,744	17,925	4,389	15,505	6,420	48,123
Common...............	9,839	6,299	1,648	1,226	2,041	22,105
Unclassified...........	11,376	1,036	3	1,432	9,332	24,668
Totals, Sheep and Lambs.......	**164,988**	**224,864**	**37,549**	**40,447**	**54,049**	**542,760**

[1] Totals include small numbers from other sources.

Slaughtering and Meat-packing.—The tendency to large scale production in this industry is shown in the summary of census records below. The number of establishments has rapidly dropped off while the industry has grown by leaps and bounds. The concentration of the industry into a comparatively small number of large establishments has resulted in the utilization of by-products and in a marked increase in economy and efficiency of operation. In addition to the principal statistics reported in the decennial censuses from 1871 to 1911, annual figures collected through the Census of Industry for the years 1925 to 1929 are included in Table **15**, whilst live stock slaughtered at Canadian inspected establishments in 1929 and 1930 are shown in Table **16**.

15.—Principal Statistics of the Slaughtering and Meat-Packing Industry of Canada, decennially 1871-1911, annually 1924-1929.

Description.		1871.	1881.	1891.	1901.[1]	1911.[1]
Establishments	No.	193	203	527	57	80
Capital invested	$	419,325	1,449,677	2,173,077	5,395,162	15,321,088
Employees	No.	841	852	1,690	2,416	4,214
Salaries and wages	$	145,376	209,483	503,053	1,020,164	2,685,518
Cost of materials	$	2,942,786	3,163,576	5,554,246	19,520,058	40,951,761
Value of products	$	3,799,552	4,084,133	7,125,831	22,217,984	48,527,076

Description.		1924.	1925.	1926.	1927.	1928.	1929.
Establishments	No.	74	74	73	76	75	74
Capital invested	$	56,675,118	54,316,043	55,712,724	60,612,029	66,198,507	67,777,803
Employees	No.	10,016	10,709	10,685	11,048	11,244	10,762
Salaries and wages	$	13,127,504	13,549,545	13,757,638	14,551,250	14,242,362	13,998,716
Cost of materials	$	106,764,011	132,329,355	139,200,096	133,076,361	142,396,342	151,814,517
Value of products	$	133,740,271	163,816,810	167,127,091	167,220,892	174,096,419	185,842,902

[1] Includes only establishments employing five hands and over.

16.—Live Stock Slaughtered at Canadian Inspected Establishments, by months, 1929 and 1930.

Month.	1929.				1930.			
	Cattle.	Calves.	Sheep.	Hogs.	Cattle.	Calves.	Sheep.	Hogs.
	No.	No.	No.	No.	No.	No.	No.	No.
January	57,175	14,004	35,032	248,855	54,345	14,137	30,879	206,542
February	43,370	13,974	20,598	207,871	40,703	15,981	20,064	167,722
March	44,848	28,758	21,267	215,290	43,429	30,818	24,208	168,370
April	50,942	54,359	19,411	207,929	44,065	56,068	26,839	161,804
May	49,635	60,552	16,857	187,493	48,466	59,227	22,584	174,082
June	42,499	50,993	24,962	160,886	40,356	41,545	35,553	159,200
July	57,201	47,683	54,818	158,824	45,815	34,741	55,933	127,031
August	60,453	38,448	76,702	160,845	48,231	26,736	79,223	123,580
September	66,159	31,371	92,555	142,360	53,662	29,876	114,460	139,804
October	85,797	33,875	177,594	207,192	68,613	27,897	184,560	160,432
November	88,386	25,489	135,250	234,319	57,503	20,562	98,252	167,501
December	55,401	15,275	49,868	221,297	56,829	18,649	52,564	170,257
Totals	**701,866**	**414,781**	**724,944**	**2,353,161**	**602,017**	**376,237**	**745,119**	**1,926,325**

Consumption of Animal Products.—The consumption of meats in Canada in 1929 is estimated at 667,461,257 pounds of beef, 798,639,058 pounds of pork and 68,848,278 pounds of mutton and lamb. The per capita consumption of beef on this basis amounts to 68·13 pounds; pork, 81·52 pounds, and mutton and lamb, 7·03 pounds, a total of 156·68 pounds of meats per capita per annum. The corresponding data for other animal products are as follows:—butter, 293,434,036 pounds and 29·95 pounds; cheese, 34,782,012 pounds and 3·55 pounds; eggs, 299,256,707 dozen and 30·55 dozen; and poultry 108,673,236 pounds and 11·09 pounds. Details are given in Table **17**.

17.—Total and Per Capita Consumption of Meats and Live-Stock Products in Canada, calendar years 1925-1929.

Item.		1925.	1926.	1927.	1928.	1929.
BEEF.						
Slaughtered in Canada	No.	1,921,464	1,902,032	1,993,454	1,948,790	1,953,399
Estimated dressed weight	lb.	691,727,040	684,731,520	707,676,170	691,820,450	693,456,615
Imports of beef	"	381,563	325,127	249,897	2,519,091	5,235,412
	"	692,108,603	685,056,647	707,926,067	694,339,541	698,692,057
Exports of beef	"	34,627,700	27,233,800	56,741,800	47,136,700	31,230,800
Totals, consumption	"	657,480,903	657,822,847	651,184,267	647,202,841	667,461,257
Consumption per capita	"	70·21	70·05	68·41	67·01	68·13
PORK.						
Slaughtered in Canada	No.	5,720,372	5,636,011	5,964,827	5,880,096	5,747,114
Estimated dressed weight	lb.	812,292,824	800,313,562	847,005,434	834,973,632	816,090,188
Imports of pork	"	16,132,187	16,062,301	10,706,633	13,975,142	21,506,270
	"	828,425,011	816,375,863	857,712,067	848,948,774	837,596,458
Exports of pork	"	149,809,300	109,983,400	82,581,700	52,354,100	38,957,400
Totals, consumption	"	678,615,711	706,392,463	775,130,367	796,594,674	798,639,058
Consumption per capita	"	72·47	75·23	81·43	82·48	81·52
MUTTON AND LAMB.						
Slaughtered in Canada	No.	1,205,780	1,394,978	1,450,222	1,528,386	1,625,508
Estimated dressed weight	lb.	48,231,200	55,799,120	58,008,880	61,135,440	65,020,320
Imports of mutton and lamb	"	1,320,739	1,672,906	1,946,037	2,332,571	4,401,258
	"	49,551,939	57,472,026	59,954,917	63,468,011	69,421,578
Exports of mutton and lamb	"	2,640,600	1,274,000	1,889,200	1,127,800	573,300
Totals, consumption	"	46,911,339	56,198,026	58,065,717	62,340,211	68,848,278
Consumption per capita	"	5·01	5·98	6·10	6·45	7·03
SUMMARY OF ALL MEATS.						
Beef	lb.	70·21	70·05	68·41	67·01	68·13
Pork	"	72·47	75·23	81·43	82·48	81·52
Mutton and lamb	"	5·01	5·98	6·10	6·45	7·03
Totals, Consumption of All Meats per capita	"	**147·69**	**151·26**	**155·94**	**155·94**	**156·68**
BUTTER.						
On hand, Jan. 1	lb.	23,316,255	10,015,826	14,548,427	21,609,123	13,785,942
Production—Creamery	"	169,494,967	177,209,287	176,978,947	168,027,039	170,810,230
Home-made	"	100,000,000	95,000,000	95,000,000	90,000,000	88,000,000
Imports	"	99,748	9,151,882	11,208,819	16,801,656	35,928,249
	"	292,910,970	291,376,995	297,736,193	296,437,818	308,524,421
Exports	"	26,646,535	9,814,013	2,696,000	1,994,800	1,400,400
	"	266,264,435	281,562,982	295,040,193	294,443,018	307,124,021
On hand, Dec. 31	"	10,015,826	14,548,427	21,609,123	13,785,942	13,689,985
Totals, consumption	"	256,248,609	267,014,555	273,431,070	280,657,076	293,434,036
Consumption per capita	"	27·36	28·44	28·72	29·06	29·95

17.—Total and Per Capita Consumption of Meats and Live-Stock Products in Canada, calendar years 1925-1929—concluded.

Item.	1925.	1926.	1927.	1928.	1929.
CHEESE.					
On hand, Jan. 1 ... lb.	14,569,236	22,410,962	23,302,293	20,844,826	18,464,126
Production—Factory ... “	177,139,113	171,731,631	138,056,908	144,584,619	118,746,286
Home-made ... “	500,000	500,000	500,000	500,000	490,000
Imports ... “	10,274,338	1,218,626	1,720,797	1,778,761	2,103,724
“	202,482,687	195,861,219	163,579,998	167,708,206	139,804,136
Exports ... “	150,742,900	134,656,000	110,533,000	114,152,500	92,946,100
“	51,739,787	61,205,219	53,046,998	53,555,706	46,858,036
On hand, Dec. 31 ... “	22,410,962	23,302,293	20,844,826	18,464,126	12,076,024
Totals, consumption ... “	29,328,825	37,902,926	32,202,172	35,091,580	34,782,012
Consumption per capita ... “	3·13	4·04	3·38	3·63	3·55
EGGS.					
Production—Farm ... doz.	224,778,867	237,080,399	253,277,227	268,456,053	274,317,872
Other ... “	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000
Imports ... “	3,726,311	4,479,815	4,576,671	3,016,702	1,086,664
“	253,505,178	266,560,214	282,853,898	296,472,755	300,404,536
Exports ... “	2,466,270	1,776,559	448,206	988,484	1,147,829
Totals, consumption ... “	251,038,908	264,783,655	282,405,692	295,484,271	299,256,707
Consumption per capita ... “	26·81	28·20	29·67	30·59	30·55
POULTRY.					
Poultry—On farms ... No.	48,133,969	50,108,516	50,178,485	53,779,539	59,932,963
Elsewhere ... “	7,082,000	7,082,000	7,082,000	7,082,000	7,082,000
Totals ... “	55,215,969	57,190,516	57,260,485	60,861,539	67,014,963
Marketings ... “	16,198,919	16,524,252	16,497,025	17,470,580	19,246,899
Estimated dressed weight ... lb.	96,718,924	97,681,758	96,782,064	102,409,964	113,105,085
Exports ... “	7,564,987	7,398,974	4,557,045	4,618,298	4,431,849
Totals, consumption ... “	89,153,937	90,282,784	92,225,019	97,791,666	108,673,236
Consumption per capita ... “	9·51	9·61	9·69	10·12	11·09

Interprovincial and International Trade in Meats.—Ontario was the largest shipper of meats, moving a total of 77,443,937 pounds out of the province during the year 1929. Beef handled amounted to 30,206,328 pounds, veal 1,157,352 pounds, mutton and lamb 885,800 pounds, fresh pork 1,616,060 pounds, cured pork 22,601,132 pounds, pure lard 5,838,877 pounds, lard compound 1,529,070 pounds, and miscellaneous meat products 13,609,318 pounds. Manitoba shipped 72,950,629 pounds, the principal items including 25,035,879 pounds of beef, 1,362,895 pounds of veal, 411,729 pounds of mutton and lamb, 4,079,736 pounds of fresh pork, 7,662,773 pounds of cured pork, 2,336,914 pounds of pure lard, 692,063 pounds of lard compound, and 31,368,640 pounds of miscellaneous products. Shipments from Quebec totalled 35,507,122 pounds, 7,885,734 pounds being beef, 2,515,438 pounds veal, 365,931 pounds mutton and lamb, 1,381,511 pounds fresh pork, 2,870,932 pounds cured pork, 590,120 pounds pure lard, 754,768 pounds lard compound, and 19,142,688 pounds miscellaneous products. Alberta shipments aggregated 10,864,913 pounds made up of 1,365,711 pounds of beef, 205,859 pounds of veal, 44,258 pounds of mutton and lamb, 1,234,414 pounds of fresh pork, 4,338,067 pounds of cured pork, 745,958 pounds of pure lard, 1,898 pounds of lard compounds, and 2,928,748 pounds of miscellaneous items. Shipments from Saskatchewan were as follows: beef 1,864,452 pounds, veal 111,187 pounds, mutton and lamb 9,227 pounds, fresh pork 1,253,245 pounds, cured pork 2,516,334 pounds, lard 369,620 pounds, miscellaneous 435,731 pounds, a total of 6,559,796 pounds. Totals for other provinces were: Prince Edward Island 30,915 pounds, Nova Scotia 383,980 pounds, New Brunswick 171,297 pounds, and British Columbia 818,972 pounds. Details of these shipments will be found at pp. 52-69 of the "Live Stock and Animal Products Statistics, 1929", which may be obtained on application to the Dominion Bureau of Statistics.

Export and Import Trade in Live Stock and Live-Stock Products.—The exports of live stock and live-stock products from the Dominion to the United Kingdom, the United States and all countries, are shown for the four fiscal years ended Mar. 31, 1927-30, in Table **12** of the chapter on External Trade, at pp. 524-543, and imports in Table **13** at pp. 544-575. Exports and imports are also available by calendar years 1925-1929, and may be found on pp. 88, 90 and 91 of the report on "Live Stock and Animal Products Statistics, 1929". At pp. 233-252 of the report on "Trade of Canada (Imports for Consumption and Exports), Calendar Year 1929" are given figures of exports of "Animals and Animal Products" for 1928 and 1929 and imports of this class for the same calendar years will be found at pp. 40-59.

Section 4.—Cold Storage.

Cold Storage Warehouses.—Under the Cold Storage Act, 1907 (6-7 Edw. VII, c. 6), now consolidated as c. 25, R.S.C., 1927, subsidies have been granted by the Dominion Government towards the construction and equipment of cold storage warehouses open to the public, the Act and regulations made thereunder being administered by the Department of Agriculture. Table **18** shows for 1930 the number of cold storage warehouses in Canada, with the refrigerated space. The latter amounts to 52,089,044 cubic feet, of which 9,800,865 cubic feet apply to 48 warehouses subsidized under the Act, while 42,288,179 cubic feet apply to 495 non-subsidized warehouses.

18.—Cold Storage Warehouses in Canada, by Provinces, 1930.

Note.—The figures in this table are supplied through the courtesy of J. F. Singleton, Chief of the Division of Dairy Markets and Cold Storage, Dominion Department of Agriculture.

Province.	Subsidized Public Warehouses.				Total Warehouses.	
	Number.	Refrigerated Space.	Cost.	Total Subsidy.	Number.	Refrigerated Space.
		cu. ft.	$	$		cu. ft.
Prince Edward Island	2	212,538	66,970	20,091	7	276,662
Nova Scotia	6	1,967,197	2,596,965	779,090	22	2,617,906
New Brunswick	3	1,162,761	537,996	161,399	25	1,464,816
Quebec	7	565,914	601,227	180,368	89	11,497,146
Ontario	19	3,438,536	2,294,147	688,244	192	16,761,445
Manitoba	1	27,500	32,000	9,600	51	5,512,374
Saskatchewan	4	437,596	268,707	80,612	48	1,996,417
Alberta	2	351,059	242,000	72,600	30	4,263,418
British Columbia	4	1,637,764	1,647,217	494,165	78	7,653,960
Yukon	-	-	-	-	1	44,900
Totals	**48**	**9,800,865**	**8,287,229**	**2,486,169**	**543**	**52,089,044**

Cold Storage Stocks.—Statistics of the stocks of food in the cold storage warehouses of Canada are collected and published monthly by the Agricultural Branch of the Dominion Bureau of Statistics. A summary of the cold storage data is included in the report on "Live Stock and Animal Products Statistics", published annually. In Table **19** are included statistics by months, for 1929 and 1930, of the stocks of food in cold storage and in process of cure, for various important commodities.

19.—Stocks of Food on Hand in Cold Storage and in Process of Cure, by Months and Commodities, 1929 and 1930.

Note.—Figures in this table are of stocks on hand on the first of each month as published by the Agricultural Branch, Dominion Bureau of Statistics.

Month.	Eggs.	Butter.	Cheese.	Beef.		
				Fresh.	Cured.	In Process of Cure.
1929.	doz.	lb.	lb.	lb.	lb.	lb.
January	4,648,252	13,785,942	18,464,126	19,947,563	169,448	333,803
February	3,007,013	11,131,943	16,714,715	17,254,819	235,576	314,552
March	1,843,169	8,332,417	14,360,065	14,774,706	285,331	235,936
April	2,148,132	4,063,692	13,294,163	13,242,980	289,848	205,751
May	7,582,875	2,619,053	11,545,050	10,811,564	428,265	171,756
June	15,163,010	3,191,013	10,511,568	8,989,952	358,548	149,068
July	19,620,619	11,437,015	17,976,400	6,629,801	292,887	198,428
August	19,981,082	21,210,760	28,319,446	8,387,262	330,301	184,907
September	18,811,843	26,297,700	34,199,886	8,506,074	393,963	208,206
October	16,538,821	27,365,196	30,557,958	9,738,214	257,808	199,115
November	11,560,569	24,014,851	24,398,231	15,923,471	250,212	197,985
December	6,793,471	18,122,416	14,206,948	24,711,475	216,904	229,903
1930.						
January	2,673,387	13,689,985	12,076,024	22,384,646	376,742	287,941
February	1,973,697	13,931,530	10,317,278	19,663,738	257,230	291,673
March	1,684,417	13,289,329	8,859,570	15,723,639	276,299	250,261
April	2,871,802	12,503,563	6,350,320	14,915,109	221,175	202,505
May	7,107,522	8,446,549	6,407,755	12,487,921	158,400	176,315
June	14,350,844	11,163,780	6,471,834	11,335,980	154,792	196,214
July	18,321,653	22,822,328	15,784,046	10,099,061	345,389	134,773
August	19,810,451	33,605,009	25,247,333	9,266,179	389,789	191,171
September	20,286,049	40,224,517	30,976,401	8,399,448	310,721	90,262
October	19,603,813	38,726,275	31,250,460	8,413,771	446,396	384,160
November	15,795,287	34,388,704	24,800,773	10,094,202	307,018	110,521
December	10,781,995	29,215,701	16,914,747	11,249,171	200,033	130,568

Month.	Veal.	Pork.			Lard.	Mutton and Lamb.	Poultry.
		Fresh.	Cured.	In Process of Cure.			
1929.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
January	1,828,246	16,182,058	8,395,771	6,596,436	2,830,268	5,957,946	9,280,788
February	1,233,803	21,898,445	7,465,688	8,395,349	3,518,397	4,649,132	7,746,969
March	1,072,667	25,354,632	10,432,108	7,936,068	4,290,526	4,133,655	7,590,422
April	957,268	26,555,711	10,042,265	8,145,382	4,358,306	3,883,094	6,108,554
May	1,215,886	26,106,243	9,760,830	10,566,326	5,070,083	2,972,799	4,924,181
June	1,787,719	23,548,479	11,605,116	9,165,737	5,343,775	1,607,219	3,876,216
July	2,000,195	19,164,657	10,920,148	8,469,387	5,979,596	838,670	3,051,063
August	1,948,829	13,233,849	9,805,774	8,818,255	5,729,571	688,922	2,528,651
September	2,171,183	10,633,300	8,861,491	7,937,969	4,822,344	822,245	2,274,505
October	2,344,175	6,709,784	7,710,562	7,403,642	3,309,661	1,195,456	2,237,282
November	3,222,100	6,096,357	7,915,124	6,150,533	2,824,108	4,714,403	3,682,399
December	3,511,477	9,905,771	8,786,038	6,595,959	2,685,105	7,784,405	7,344,054
1930.							
January	3,239,765	13,719,067	7,442,149	6,905,060	2,863,828	8,650,621	11,611,440
February	2,592,278	17,245,773	7,705,376	7,036,565	2,880,955	7,694,632	10,606,197
March	1,872,937	17,688,497	8,332,456	7,975,551	2,661,353	5,302,946	9,810,279
April	1,631,038	19,393,570	8,279,315	8,563,057	2,642,115	5,875,689	8,614,447
May	2,147,856	18,386,148	8,145,177	7,956,882	2,460,331	4,979,455	7,561,438
June	2,309,523	17,145,989	9,118,678	8,281,858	2,689,915	3,120,029	5,710,353
July	2,414,560	15,532,652	12,167,056	8,971,612	3,492,389	2,152,429	5,115,598
August	2,401,142	10,933,165	8,210,092	7,166,168	3,420,799	1,515,856	3,913,459
September	2,075,645	8,717,730	6,863,684	6,051,719	2,390,235	1,161,611	3,074,080
October	2,324,711	5,611,383	6,770,763	5,204,122	1,519,565	1,871,147	2,597,625
November	2,818,894	5,553,604	5,539,872	5,673,595	1,362,933	4,993,362	2,790,249
December	2,537,825	6,556,210	6,116,393	6,498,772	1,816,342	7,250,633	4,295,099

Section 5.—Bounties, Patents, Copyrights and Trade Marks.[1]

Bounties.—In cases where it is considered advisable for the Government to encourage the production of a particular commodity, bounties paid by the Government are recognized substitutes for protective duties. In the past they have been made use of by Canada to a considerable degree, but the only bounties which involved payments in 1929-30 were those on hemp and on copper bars and rods. The amounts of these bounties paid in recent periods have been as follows:—

Copper Bounties Paid in—		
Year ended June 30, 1925	1,164,140 lbs. at 1¼c	$ 14,551.75
Year ended June 30, 1926	10,808,627 lbs. at 1c	108,086.27
Year ended June 30, 1927	16,387,302 lbs. at ¾c	122,904.39
Year ended June 30, 1928	12,514,446 lbs. at ½c	62,572.24
Year ended June 30, 1929	6,837,124 lbs. at ½c	34,185.63
Year ended June 30, 1930	10,857,149 lbs. at ½c	54,285.75
4 Mos. ended Oct.31, 1930	889,286 lbs. at ½c	4,446.43
Totals	59,458,074 lb.	$401,032 46
Hemp Bounties Paid in—		
Calendar Year 1926	19,048 lbs. at 1½c	$ 285.72
Calendar Year 1927	203,087 lbs. at 1⅜c	2,792.43
Calendar Year 1928	826,821 lbs. at 1¼c	10,335.25
Calendar Year 1929	666,113 lbs. at 1⅛c	7,493.77
10 Mos. ended Oct. 31, 1930	246,502 lbs. at 1c	2,465.02
Totals	1,961,571 lb.	$ 23,372.19

Bounties have been paid at various times in the past on iron and steel, on lead, on crude petroleum, on manila fibre, on zinc and on linen yarns, but the bounties on iron and steel ceased in 1911, on lead in 1918, on zinc in 1921, on linen yarns in 1923 and on crude petroleum in 1927. The total amounts paid in bounties on these commodities between 1896 and the date of expiration were: iron and steel and manufactures of (1896-1912), $16,785,827 (Canada Year Book) 1915, p. 460); lead (1899-1918) $1,979,216 for 1,187,169,878 lbs. of lead; zinc $400,000; linen yarns $17,523; manila fibre (1903-1913), $367,962; crude petroleum (1905-1927) $3,457,173 on 233,135,217 gallons. (For quantities of crude petroleum and bounties paid in each year, see table on p. 635 of the 1927-28 Year Book.) Total payments for expired bounties between 1896 and 1929 aggregated $23,007,701, which with the $401,032 paid on copper bars and rods and the $23,372 for hemp, make a total of $23,432,105. The existing bounty on copper bars and rods was extended to June 30, 1931 at the rate of ½c. per lb. by c. 15 of the Statutes of 1928. The Year Book of 1915, pp. 459-461, gave a description of the bounties that had been payable since 1883, as well as tables showing, for each commodity, the quantities on which bounties were annually paid and the amounts of such bounties for the years 1896 to 1915 inclusive. For details of the bounties on zinc, see p. 635 of the 1927-28 Year Book.

A bounty on Canadian coal used in the manufacture of iron or steel was authorized by c. 6 of the Statutes of 1930. By that Statute, manufacturers of iron and steel may be paid 49½c. per ton of bituminous coal mined in Canada, converted into coke in Canada and used by such manufacturers in the smelting of iron ore or in the manufacture of steel ingots or steel castings in Canada. This bounty was established on the recommendation of the Royal Commission on Maritime Claims relating to the manufacture of iron or steel by the use of Canadian coal.

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[1] Information regarding bounties has been revised by H. B. Borbridge, Chief Accountant, Department of Trade and Commerce, and information regarding patents, copyrights and trade marks by T. L. Richard, Commissioner of Patents, Ottawa.

Patents.—Letters patent, which in England have been in the gift of the Crown from the time of the Statute of Monopolies and earlier, are, in Canada, a purely statutory grant and have always been so. The earliest Act was one of Lower Canada, passed in 1824, wherein provision was made for the granting of patent rights to inventors who were British subjects and inhabitants of the province. Upper Canada passed its Act in 1826, and Nova Scotia and New Brunswick passed theirs at later dates. In 1849, after the Union, a consolidating Act was passed applying to both Upper and Lower Canada, and the B.N.A. Act assigned the granting of patents exclusively to the Parliament of Canada. The Dominion Patent Act of 1869 repealed the provincial Acts and has formed the basis of all succeeding Acts.

The first Canadian patent was issued under the Lower Canada Act of 1824 to Noah Cushing of Quebec; 165 patents were granted under the Acts of Upper and Lower Canada, and, under the consolidating and later Acts of the provinces 3,160 patents were granted.

Letters patent of inventions are now issued subject to the provisions of Chapter 150 R.S.C. 1927, and applications for protection relating to the same should be addressed to The Commissioner of Patents, Ottawa, Canada.

Invention means any new and useful art, process, machine, manufacture or composition of matter or any new and useful improvement in any art, process, machine, manufacture or composition of matter.

The growth of Canadian inventions is shown by the fact that an average of 1,422 patents was issued annually to Canadians during the decade 1920-29. The business of the Office has gradually continued to expand and the number of applications and total fees increased each year without a break from the beginning of the present century until the fiscal year ended Mar. 31, 1913, when 8,681 applications were received and the total fees amounted to $218,125. In the fiscal year ended Mar. 31, 1930 there were 14,288 applications, with fees amounting to $478,327, as compared with 13,062 and $434,498 respectively in 1929. For the fiscal year ended Mar. 31, 1930, the number of patents granted was 10,401 as compared with 9,335 in 1929, an increase of 1,066. Of the patents of 1930, 6,586 or 63 p.c. were issued to United States inventors, 1,169 to Canadians and 941 to residents of Great Britain and Ireland, while Germany with 669, France with 295 and Sweden with 114, came next in number of inventors to whom patents were issued. Table **20** shows the distribution of the Canadian patentees for the years 1920 to 1930 by province of residence.

20.—Number of Canadian Patentees, by Province of Residence, for the fiscal years ended Mar. 31, 1920-1930.

Province.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Prince Edward Island	9	2	4	9	7	2	2	5	3	1	3
Nova Scotia	29	29	22	35	41	26	30	19	24	16	17
New Brunswick	22	33	14	21	14	24	24	21	12	17	16
Quebec	312	331	276	430	312	302	272	320	298	293	282
Ontario	636	708	508	845	673	559	561	499	537	538	500
Manitoba	86	118	75	158	83	66	68	89	71	61	72
Saskatchewan	94	119	101	166	106	101	90	68	100	93	81
Alberta	116	127	96	155	123	95	95	82	88	98	71
British Columbia	147	177	103	202	174	127	150	129	152	148	126
Yukon and N.W.T.	–	1	–	–	–	–	–	–	–	–	1
Totals	**1,451**	**1,645**	**1,199**	**2,021**	**1,533**	**1,302**	**1,292**	**1,232**	**1,285**	**1,265**	**1,169**

It will be seen from the table that the more populous provinces of Ontario and Quebec obtained the largest absolute number of patents, but a calculation of the number of patentees in relation to population shows that, for the fiscal year 1930, the greatest relative inventiveness was displayed in British Columbia. Thus, in this province, in 1930, one patent was granted for every 4,740 persons, the other provinces, as regards the number of persons to each patent granted, being placed in order as follows:—Ontario, 6,620; Alberta, 9,300; Manitoba, 9,330; Saskatchewan, 10,890; Quebec, 15,030; New Brunswick, 26,470; Prince Edward Island, 28,590; and Nova Scotia, 32,580.

21.—Statistics of Patents Applied for, Granted, etc., fiscal years ended Mar. 31, 1926-1930.

Item.		1926.	1927.	1928.	1929.	1930.
Applications for patents	No.	11,133	11,406	11,845	13,062	14,288
Patents granted	“	11,001	10,018	9,518	9,335	10,401
Certificates for renewal fees	“	1,761	2,204	319	404	149
Caveats granted	“	396	397	370	334	363
Assignments	“	5,948	6,409	7,011	8,227	9,505
Fees received, net	$	455,211	438,690	412,146	434,498	478,327

As will be seen from Table **21** the increased activity in invention which was manifested during 1928-29 has been still more marked in the fiscal year 1929-30. With few exceptions the activity has been distributed over the whole field of invention.

In the chemical and allied arts the use of cellulose derivatives in the production of artificial threads and fibres and their treatment for the making of fancy products, the production of synthetic resins for various uses and the manufacture of synthetic drugs and dyes have been the subjects of increased numbers of applications.

The increasing use of electrical power for industrial and domestic purposes has resulted in a large number of applications for generation, transmission and control apparatus. In connection with talking picture machines many improvements have been made in the use of photo-electric cells, and in the construction of thermionic valves for radio and other uses there is a marked increase in the number of applications. Submarine cable applications for the elimination of distortion of signals have materially increased. Automatic telephones and television apparatus have formed the subject of many applications, particularly by specialists connected with large organizations. Electric, gas and vapour discharge lamps for general lighting, advertising signs and for use in the production of ultra-violet radiations have greatly developed and applications relating to transportation such as road, railway and aeronautical vehicles, brakes, clutches, couplings and propellers showed a good general increase. In inventions of machinery for the mechanical keeping of accounts and compilation of statistics and of calculating and cash register machines there has also been considerable activity.

Copyrights and Trade Marks.—Registration of Copyright is governed by c. 32, R.S.C., 1927, and an application for protection relating to same should be addressed to The Commissioner of Patents, Ottawa, Canada.

The Copyright Act of 1921 (amended in 1923 and consolidated in c. 32, R.S.C. 1927) sets out in section 4 the qualifications for a copyright and in section 5, its duration. "Copyrights shall subsist in Canada . . . in every original literary, dramatic, musical and artistic work, if the author was, at the date of the making of the work, a British subject, a citizen or subject of a foreign country which has adhered to the (Berne) Convention and the additional Protocol . . . or resident within His Majesty's Dominions. The term for which the copyright shall subsist shall, except as otherwise expressly provided by this Act, be the life of the author and a period of fifty years after his death".

Copyright protection is extended to records, perforated rolls, cinematographic films and other contrivances by means of which a work may be mechanically performed. The intention of the Act is to enable Canadian authors to obtain full copyright protection throughout all parts of His Majesty's Dominions, foreign countries of the Copyright Union, and the United States of America, as well as in Canada.

The Trade Marks Act (c. 201, R.S.C., 1927) was amended by c. 10 of the Statutes of 1928, bringing the Act into agreement with the terms of the Convention for Protection of Industrial Property, as amended at The Hague in 1925, with regard to refusal to register certain trade marks. The renewal of expired trade-mark registration was also provided for, while it was also enacted that in certain cases interested parties might apply to the Exchequer Court of Canada for the cancellation of a trade mark at any time within three years from its registration.

22.—Statistics of Copyrights, Trade Marks, etc., fiscal years ended Mar. 31, 1926-30.

Item.		1926.	1927.	1928.	1929.	1930.
Copyrights registered	No.	2,861	3,167	2,889	3,043	4,072
Certificates of copyright	"	2,600	2,935	2,649	2,781	3,849
Trade marks registered	"	2,203	1,828	2,210	2,316	3,143
Industrial designs registered	"	525	376	411	337	408
Timber marks registered	"	12	18	8	12	12
Assignments registered	"	1,744	1,641	2,055	2,055	2,282
Fees received, net	$	79,927	79,239	83,791	95,741	96,591

The following table gives the receipts, expenditures and surplus on account of patents, copyrights and trade marks for the fiscal years 1921-30.

23.—Receipts, Expenditures and Surplus on Account of Patents, Copyrights and Trade Marks, fiscal years ended Mar. 31, 1921-30.

Fiscal Year.	Receipts.	Expenditures.				Surplus.
		Civil Government.	Patent Record.	Contingencies.	Total.	
	$	$	$	$	$	$
1921	407,881	124,096	31,521	28,668	184,285	223,601
1922	451,886	150,650	22,594	28,950	202,193	252,693
1923	484,479	155,038	36,397	33,853	225,288	259,191
1924	459,780	166,593	32,052	28,446	227,091	232,689
1925	550,531	144,661	30,206	20,941	195,808	354,723
1926	535,139	149,839	34,973	24,155	208,967	326,172
1927	517,930	152,631	34,613	27,766	215,010	302,919
1928	495,937	157,084	34,006	24,653	215,744	280,193
1929	530,239	162,005	29,749	26,870	218,624	311,615
1930	574,918	169,339	34,946	31,622	235,907	339,011

Section 6.—Weights and Measures, Electricity and Gas Inspection.[1]

Weights and Measures.—The object of weights and measures administration is to provide and maintain uniform standard units for the conduct of industry and commerce. Weights and measures, indeed, are complementary to the currency. Short weight, whether arising from fraud or accident, is identical in effect with short change.

Prior to Confederation, the administration of weights and measures was in the hands of each Provincial Government, but passed to the Dominion Government in 1867, under section 91 of the British North America Act. Steps were then taken to simplify the standards in use and to establish uniformity throughout the Dominion.

What might be termed the principal Weights and Measures Act of Canada was passed in the session of 1872-73; its provisions closely followed English weights and measures law, but the system of weights and measures to be legally used in trade was greatly simplified. This Act established as the primary legal standards for Canada the imperial pound, gallon and yard, but in place of the system of stones, quarters, hundredweights (112 lb.) and the long ton (2,240 lb.), it provided a decimal series of weights, 1, 2, 3, 5, 10, 20, 30, 50, 100 lb., and the short ton of 2,000 lb. The only exceptions to this were the continued use of the old French land measure, the arpent, in Quebec, and the use of the long ton (2,240 lb.) in the coal-mining industry, but not for the retail sale of coal. The troy ounce of 480 grains and its decimal submultiples are the legal weights for the weighing of gold and precious metals. The metric system is legal for all transactions.

Many changes, deletions and additions have been made to the Act of 1873 by later legislation, but its principles remain unchanged. The latest legislation is the Weights and Measures Act (c. 212, R.S.C., 1927).

The Weights and Measures Service was first administered by the Department of Inland Revenue, and offices were opened in all the principal centres of Canada and equipped with standards and inspection equipment. In 1918 the Service was transferred and attached to the Department of Trade and Commerce. For purposes of administration, the Dominion is divided into 18 districts, each in charge of a district inspector and suitable staff stationed in the larger cities throughout the country. The chief rules of administration are as follows:—

(a) Every new type of weighing and measuring device must be submitted to the Department at Ottawa for approval before being placed on the market.

(b) Every new machine must be inspected and stamped by an inspector before being sold or taken into use.

(c) Imported machines are held by the customs until release is approved by the nearest inspector.

(d) All inspections take place on the traders' premises, except where devices are brought to the inspection offices.

(e) Fees are charged for inspection and stamping, the schedule being defined by Order in Council, and all moneys so collected are paid into the Consolidated Revenue Fund of Canada.

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[1] The material on Weights and Measures has been revised by E. O. Way, Director of Weights and Measures, Department of Trade and Commerce and that on Electricity and Gas Inspection by J. L. Stiver, Director, Electrical and Gas Standards Laboratories, Department of Trade and Commerce.

The following table is a summary of the articles and machines inspected in the fiscal year 1929-30.

24.—Inspections by the Weights and Measures Service, fiscal year ended Mar. 31, 1930.

Article.	Submitted.	Verified.	Rejected.	Percentage of Rejections.
	No.	No.	No.	p.c.
Weights	85,631	81,675	3,956	4·6
Weights, metric	1,214	1,195	19	1·5
Measures of capacity	90,302	89,581	721	0·8
Measures of length	11,696	11,561	135	1·1
Milk cans	71,166	71,084	82	0·1
Ice-cream containers	47,408	47,407	1	–
Babcock glassware	34,354	34,008	346	1·0
Measuring devices	45,945	41,294	4,651	10·1
Weighing machines	185,720	165,090	20,630	11·1
Weighing machines, metric	504	482	22	4·3
Tank wagons	1,273	1,265	8	0·6
Totals	**575,213**	**544,642**	**30,571**	**5·3**

The total revenue collected by the Service during the year amounted to $407,359, and the total expenses, including salaries, totalled $344,566.

Electricity and Gas Inspection.—The Electricity and Gas Inspection Branch of the Department of Trade and Commerce administers three Acts, the Electricity Inspection Act (c. 22, 1928), the Gas Inspection Act (c. 82, R.S.C. 1927), and the Electricity and Fluid Exportation Act (c. 54, R.S.C. 1927).

The latest report of the Branch shows 489,569 electricity and gas meters tested in the fiscal year ended Mar. 31, 1930, as compared with 459,159 in the preceding year. The total revenue derived from electricity and gas inspection was $329,006, as compared with an expenditure of $223,937. The Branch also collected $318,792 as export duty and licence fees under the provisions of the Electricity and Fluid Exportation Act; the cost of collecting this revenue was only $210.

Statistics collected as a by-product of the administration of the last-named Act will be found on p. 386, in the Water Power chapter of the Year Book. Here, however, may be given statistics collected by the Branch in the process of administration and showing the phenomenal increase in the number of consumers of electricity in the past fifteen years, from 505,597 to 1,582,505 (Table **25**); the lesser increase in the gas meters in use from 267,454 in 1916 to 639,295 in 1930 (Table **26**); and the number of cubic feet of gas sold in Canada from 1920 to 1930, classified as carburetted water gas, coal gas, coke oven gas, natural gas and acetylene gas (Table **27**).

25.—Number of Electricity Meters in Use, fiscal years ended Mar. 31, 1915-1930.

Fiscal Year.	Number.	Fiscal Year.	Number.
1915	505,597	1923	1,046,831
1916	517,629	1924	1,094,639
1917	594,737	1925	1,165,664
1918	661,403	1926	1,240,752
1919	717,776	1927	1,314,428
1920	743,468	1928	1,412,521
1921	860,379	1929	1,499,872
1922	945,599	1930	1,582,505

26.—Number of Gas Meters in Use, fiscal years ended Mar. 31, 1916-1930.

Fiscal Year.	Manufactured Gas.	Natural Gas.	Acetylene Gas.	Total.
	No.	No.	No.	No.
1916	199,514	67,940	–	267,454
1917	314,915	55,697	–	370,612
1918	325,244	88,795	–	414,039
1919	336,388	91,056	–	427,444
1920	350,777	85,004	513	436,294
1921	361,479	98,494	577	460,550
1922	366,840	101,785	430	469,055
1923	379,459	102,007	438	481,904
1924	390,548	105,804	425	496,777
1925	405,471	106,861	404	512,736
1926	443,067	85,752	425	529,244
1927	462,496	90,302	358	553,156
1928	482,076	98,915	357	581,348
1929	504,500	107,504	116	612,120
1930	520,788	118,390	117	639,295

27.—Number of Cubic Feet of Gas Sold in Canada, fiscal years ended Mar. 31, 1920-30.

Fiscal Year.	Carburetted Water Gas.	Coal Gas.	Coke Oven Gas.	Natural Gas.	Acetylene Gas.	Total.
	cu. ft.	cu. ft.	cu. ft.	cu. ft.	cu. ft.	cu. ft.
1920	4,487,511,639	6,787,370,045	–	17,117,100,328	1,669,650	28,393,651,662
1921	5,331,442,415	7,096,221,745	–	–	–	–
1922	4,668,391,857	8,433,860,903	–	11,289,592,401	1,005,000	24,392,850,161
1923	6,632,961,609	7,637,113,997	132,000	12,238.836,883	1,165,395	26,510,207,884
1924	5,214,843,290	8,042,882,100	3,188,600	14,866,618,700	1,194,059	28,128,726,149
1925	5.254,802,700	7,824,192,540	91,628.300	10,525,604,563	1,266,109	23,697,494,212
1926	4,835,613,326	8,149.894,391	1,449,794,500	13,004,469,776	1,210,894	27,440,982,887
1927	5,804,503,468	8,405,556,329	1,049,978,000	17,863,365,700	1,247,108	33,124,650,905
1928	6,883,634,603	7,488,964,653	1,680,237,100	20,365,048.768	1,325,510	36,419,210,634
1929	4,550,828,600	6,273,274,533	6,097,920,366	25,491,446,000	647,168	42,414,116,667
1930	4,456,996,628	5,802,653,503	8,153,473,000	31,880,844,600	847,230	50,294,814,961

Section 7.—Statistics of Wholesale and Retail Merchandising.[1]

Comprehensive information regarding the distribution of commodities to the consumer is an outstanding need in the field of statistical effort at the present time. Statistics of production have helped to solve many of the problems of production, thus rendering it more efficient. We have very little information of an exact nature about wholesale and retail distribution, yet some of the most important business problems of the day are concerned with this field of activity by which goods reach the ultimate consumer from the manufacturer and producer. It is to be expected that if a comprehensive picture of the channels through which commodities are distributed and services rendered to consumers was made available, it would lead to many economies and aid in the development of more efficient distribution.

In connection with the 1931 population census there will be taken a census of merchandising and service establishments, the purpose of which will be to obtain the much needed comprehensive picture of the distribution of commodities at wholesale and retail and of the agencies through which services are performed. This census will include questions on capital employed, employees, wages, sales and expenses, etc.

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[1] Revised by Herbert Marshall, B.A., F.S.S., Chief, Internal Trade Branch, Dominion Bureau of Statistics. For a list of the Publications of this Branch see Chapter XXVIII, Section 1 under "Internal Trade".

Subsection 1.—Census of Trading Establishments.

A first and limited inquiry of this nature was made in 1924. It comprised about two-thirds of the wholesale and retail stores of the Dominion representing sales amounting to a somewhat higher percentage. Summarized results of this census of trading establishments were presented at pp. 629-635 of the 1929 Year Book, while more detailed figures were given in the "Census of Trading Establishments, 1924" obtainable from the Dominion Statistician.

Grand Total of Capital, Purchases and Sales.—The grand total amount of the capital invested in the 66,814 stores reporting for 1924 was shown by their inventories to be $1,580,123,723, including $914,990,830 in 60,181 retail stores, $476,559,544 in 3,782 wholesale stores and $188,573,349 in 2,851 stores doing both a wholesale and retail business. The total purchases of merchandise were $2,321,078,297, including $1,225,016,362 by retail stores, $812,139,031 by wholesale stores and $283,922,904 by wholesale-retail stores. The aggregate of sales was $3,030,663,185, including $1,642,103,468 by retail stores, $1,021,920,931 by wholesale stores and $366,638,786 by wholesale-retail stores.

Subsection 2.—Survey of Chain Stores.

Chain stores have become in recent years an increasingly important factor in the distribution of commodities of various kinds to the ultimate consumer. No picture of the relative importance of chains and independents will be available until the census of 1931, but the Bureau made a partial survey of the chain store field in 1929. Returns were received from 210 out of some 350 chains, the former including practically all large stores. The salient features of the survey follow.

Numbers of Chains and Stores.—Of the 210 chains from which returns were received, grocery chains led in point of numbers with 42 chains and 1,699 stores; 18 general, department and variety chains had 354 stores; 29 drug chains, 260 stores; 9 meat chains, 186 stores; 4 tobacco chains, 173 stores; 17 boot and shoe chains, 157 stores; 11 restaurant chains, 131 stores; and 12 bakery chains, 121 stores. Other chain systems varied from 12 to 108 stores as shown in Table **28.**

Sales.—Total sales in 1929 for the 210 reporting chain systems amounted to $256,130,000. This was equivalent to $68,889 per store, and taking the estimated population of the Dominion in 1929 as 9,796,800 it worked out at over $26 per capita. Sales by provinces were largest in Ontario where they reached $137,383,000, or more than 50 p.c. of the total for all the provinces as reported by the 210 chain systems.

Even if allowance be made for chains which were missed and those from which information could not be obtained for this year's inquiry, it is evident that the great bulk of the nation's retail merchandising is still done by independent stores. It is probable that a current estimate of total retail sales of around $2,000,000,000 is not far astray. It is estimated that if the 140 chains from which returns have not yet been received were included the total sales for all 350 would not exceed $400,000,000 (not including sales of certain departmental stores having branch rather than chain systems). Since many which did not report were small concerns the latter figure is probably too high. It would seem that chain stores (exclusive of co-operative chains of independent stores), though doing an increasing proportion of the business of distributing commodities to the consumer, probably do less than 25 p.c. of this work at present.

This report does not include co-operative chains of independents but the business done by these concerns adds considerably to the sum total performed by chain organizations. Nevertheless, including these, it is probable that more than two-thirds of the retail distribution is still performed by independent concerns.

Sales of grocery and meat chains amounted to $115,232,179, or almost 45 p.c. of total recorded chain sales. In the 1924 Census of Trading Establishments, 16,905 grocery and meat stores showed sales of $319,676,823. The current figure may be estimated at approximately $400,000,000. If allowance be made for non-reporting chains in the present inquiry the total sales by this type of chain would probably be well under $150,000,000; hence independents (including co-operative and voluntary chains) do the bulk of the business in a field which has been more intensively exploited by chain organizations than any other.

Sales Outlets.—An item of interest is that pertaining to the number of sales outlets, that is, taking the department rather than the store as the unit. Thus, while there are special chains for the sale of candy and confectionery, the candy departments of drug stores, bake shops, restaurants, etc., offer additional sales outlets for similar commodities. The complete story of the distribution of commodities is not known until all outlets for the sales of each commodity are revealed. An attempt has therefore been made to enumerate the total number of merchandising outlets for each class of commodity in the chain systems covered. In all there were 11,896 merchandising outlets in the 210 chain systems, which is an average of over three for each separate store. There were 2,965 outlets for foods and kindred products; 991 for cigars, tobacco, and smokers sundries; 428 for women's, misses', and children's clothing; 410 for house furnishings; 387 for drugs and drug sundries; and 378 for hardware. Outlets for other classes of goods numbered from 8 to 369.

Sales by Classes of Commodities.—Sales according to commodity classes as shown in Table **29** were largest for food and kindred products, amounting to $140,732,928, which was almost 55 p.c. of the total sales of the 210 reporting chains. Next in order came women's, misses' and children's clothing, with sales amounting to $10,743,621 or 4·2 p.c.; men's clothing and furnishings, $9,815,928 or 3·8 p.c.; cigars, tobacco and smoker's sundries, $8,686,764 or 3·4 p.c.; dry goods and notions, $7,960,739 or 3·1 p.c.; hardware, $7,729,686 or 3·0 p.c.; toilet articles and preparations, $7,087,194 or 2·8 p.c.; shoes and other footwear, $6,529,593 or 2·5 p.c.

28.—Number of Stores and Sales of Chain Stores in Canada, by Classes of Chains and by Provinces, calendar year 1929.

Class of Chains.	Stores Reported.	Sales Reported.	Percentage of Reported Sales.	Province.	Stores Reported.	Sales Reported.	Percentage of Reported Sales.
	No.	$	p.c.		No.	$	p.c.
Bakery products...	121	2,178,483	0·8	Nova Scotia and P.E.I.	70	5,608,201	2·2
Boots and shoes....	157	5,675,086	2·2	New Brunswick....	50	4,819,125	1·9
Candy and confectionery..........	106	3,785,942	1·5	Quebec...........	874	56,489,703	22·0
Drugs and chemicals.............	260	12,915,808	5·0	Ontario...........	1,871	137,682,696	53·8
Dry goods.........	12	658,876	0·2	Manitoba.........	176	11,877,076	4·6
Dyers and cleaners.	39	1,751,090	0·7	Saskatchewan.....	200	11,666,542	4·5
Furniture..........	83	10,089,758	3·9	Alberta...........	161	10,664,704	4·2
Furs...............	15	1,603,489	0·6	British Columbia..	316	17,321,927	6·8
General and variety	354	49,655,676	19·3				
Grocers............	1,699	104,223,178	40·7				
Hardware..........	63	7,400,704	2·9				
Men's clothing and furnishings.......	102	6,654,951	2·7				
Musical instruments and radio........	66	9,122,804	3·5				
Meats, fish and poultry..........	186	11,009,001	4·3				
Restaurants........	131	13,045.670	5·1				
Tobacco and cigars	173	6,542,262	2·6				
Women's wear......	108	5,075,346	2·1				
Miscellaneous[1]......	43	4,741,850	1·9				
Totals..........	**3,718**	**256,129,974**	**100·0**	**Totals**..........	**3,718**	**256,129,974**	**100·0**

[1]Includes jewellery, stationery, tire and automobile accessory chains.

29—Chain Store Sales in Canada by Classes of Commodities, calendar year 1929.

Class of Commodities.	Reported Sales.	Percentage of Reported Sales.	Class of Commodities.	Reported Sales.	Percentage of Reported Sales.
	$	p.c.		$	p.c.
Antiques, art goods, statuary and gifts..........	457,959	0·2	House furnishings.........	5,944,396	2·3
Automobiles, trucks, tractors, and accessories....	2,393,667	0·9	Jewellery, silverware, clocks and watches......	2,464,419	1·0
Batteries, storage.........	89,587	0·1	Leather goods, purses, etc.	714,200	0·3
Building material.........	527,081	0·2	Luggage..................	58,211	–
Cameras and photographic supplies................	589,034	0·2	Motor cycles, bicycles and accessories..............	56,364	–
Cigars, cigarettes, tobacco and smokers' sundries..	8,686,764	3·4	Musical instruments and accessories..............	5,395,271	2·1
Infants' wear..............	1,739,665	0·7	Office and store equipment	234,444	0·1
Men's clothing, furnishings, hats and caps......	9,815,928	3·8	Optical equipment.........	4,990	–
Women's, misses' and children's clothing.......	10,743,621	4·2	Paints, glass and painters' supplies.................	1,873,364	0·7
Drugs and drug sundries..	6,274,907	2·4	Professional and scientific equipment, etc..........	25,000	–
Dry goods and notions....	7,960,739	3·1	Radio and radio equipment	5,627,725	2·2
Electric appliances and supplies.................	1,350,454	0·5	Seeds, bulbs, nursery stock, etc...............	513,076	0·2
Farm and garden equipment and supplies......	248,420	0·1	Shoes and other footwear.	6,529,593	2·6
Fertilizers................	11,975	–	Sporting goods............	310,943	0·1
Flowers, wreaths, etc......	22,639	–	Stationery, books and magazines...............	3,935,975	1·5
Food and kindred products	140,732.928	55·0	Stoves, ranges, heaters, etc	1,219,083	0·5
Furniture................	6,196,201	2·4	Surgical and hospital supplies...................	214,520	0·1
Furs and fur goods........	1,758,393	0·7	Toilet articles and preparations..................	7,087,194	2·8
Gas appliances and supplies	44,513	–	Toys and games...........	2,381,172	0·9
Gasolene, lubricating oils and greases.............	104,937	0·1	Wall paper................	260,567	0·1
Hardware.................	7,729.686	3·0	Miscellaneous merchandise	2,652,205	1·0
Hay, grain and feed.......	153,500	0·1	Second-hand merchandise.	259,979	0·1
Heating and plumbing equipment and supplies.	734,685	0·3	**Totals**...............	**256,129,974**	**100·0**

CHAPTER XVIII.—TRANSPORTATION AND COMMUNICATIONS.

Canada is a country of magnificent distances, nearly 4,000 miles in length from east to west, with its relatively small population of 9,934,500[1] in the main thinly distributed along the southern borders of its vast area. Different parts of the country are shut off from each other by areas which are almost wildernesses, such as the region lying between New Brunswick and Quebec and the areas north of lakes Huron and Superior, the last dividing the industrial region of Ontario and Quebec from the agricultural areas of the prairies. To such a country with such a population, producing, like our western agriculturists, mainly for export, or, like our manufacturers, largely for consumption in distant portions of the country itself, cheap transportation is a necessity of life. Before 1850, when the water routes were the chief avenues of transportation and were closed by ice for several months each year, the business of the central portions of the country was reduced to a state of relative inactivity during the winter. The steam railway was therefore required for the adequate economic development of Canada, more particularly for linking up with the economic and industrial world the vast productive areas of the Canadian West, and thus promoting their development. The construction of the Canadian Pacific Railway gave to Canada, as an economic unit, length; the building of the newer transcontinental railways has given the country breadth.

Railway transportation, though essential, is nevertheless expensive, particularly in recent years, and for bulky and weighty commodities. Hence new enterprises have either been undertaken or are under consideration for improving water communication, such as the new and deeper Welland canal, the deepening of the St. Lawrence canals and of the channel between Montreal and Quebec, and the utilization of the Hudson Bay route for the transportation of western grain to the British and continental European markets.

Problems of transportation are, therefore, of vital importance in the economic life of Canada, occupying a large part of the time and thought of our Parliaments and public men. Scarcely less important, from the social and the economic points of view, is the development of methods of communication in a country so vast and so thinly peopled. The Post Office has been a great though little recognized factor in promoting solidarity among the people of different parts of the Dominion, while telegraphs and telephones have gone far to annihilate distance; the rural telephone, in particular, has been of great social and economic benefit in country districts. The use of the automobile has also been of great benefit in promoting social intercourse and in facilitating the transaction of business among the dwellers of both urban and rural districts. The press, again, assisted by cheap telegraph and cable rates, and reaching through the mails all over the country, has been of great use in developing national sentiment. To sum up, it may be said that the progress of modern inventions, not least among which is the radio, has greatly improved living conditions in both rural and urban communities throughout the Dominion.

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[1] Estimated population 1930.

In Part I of this chapter is included a statement of the tendencies toward monopoly which have made it necessary to establish a measure of government control over those transportation and communication agencies which are not governmentally-owned and -operated; to this is added an account of the origin and functions of the Board of Railway Commissioners. The subsequent parts deal in order with steam railways, electric railways, express companies, roads, motor vehicles, air navigation, canals, shipping, telegraphs, telephones and the Post Office.

PART I—GOVERNMENT CONTROL OVER AGENCIES OF TRANSPORTATION AND COMMUNICATION.

Private enterprises engaged in the transportation and communications business in Canada have, in the past 50 years, shown the same tendency toward consolidation and amalgamation which has been evident elsewhere throughout the civilized world. The basic reason for such consolidation and amalgamation has been the fact that the business of transportation and communication is, generally speaking, a "natural monopoly", *i.e.*, a type of enterprise in which service can be more efficiently and economically rendered to the public where one or a few concerns control a particular type of service throughout the country. The outstanding example of these consolidations in Canada is the concentration of the control of the railways of the country in the hands of the Canadian Pacific Railway and the Canadian National Railway Companies.

However, since such control brings with it an element of monopoly and possible overcharge which is distasteful to the public, it has in Canada, as in other countries, been deemed advisable to set up authorities controlling the rates to be charged and the other conditions on which services to the public are to be rendered by common carriers. This control, so far as railways within the jurisdiction of the Dominion Government are concerned, has been placed in the hands of the Board of Railway Commissioners, whose authority has been extended to cover various other means of transportation and communication. A brief summary of the history and functions of this body follows.

Besides the Board of Railway Commissioners, dealing with the larger public utilities coming under the jurisdiction of the Dominion Government, there exist, in several of the provinces, bodies which undertake among their duties the supervision and control of local public utilities operating under the jurisdiction of the provinces, and the regulation of their rates for service. Among these is the Railway and Municipal Board of Ontario, established in 1906, which controls the construction, operation and maintenance of railways and the approving of their rates and their rules and regulations affecting the public. Similarly, in Quebec, a Commission of Public Utilities was established in 1909 and was given superintendence over all Quebec corporations, other than municipalities, "that own, operate, manage or control any system, works, plant or equipment for the conveyance of telegraph or telephone messages or for the conveyance of travellers or goods over a railway, street railway or tramway, or for the production, transmission, delivery or furnishing of heat, light or power, either directly or indirectly to or for the public". In Nova Scotia there is a Board of Commissioners of Public Utilities and in Manitoba a Public Utilities Commission, with similar functions, while in the three westernmost provinces these same duties are performed by provincial Departments of Railways.

The Board of Railway Commissioners for Canada.[1]

In the early days of railway building in Canada, the provinces were more concerned with rapid development than with rate regulation. Under the Railway Clauses Consolidation Act of 1851, rates were fixed by the directors of the railway, subject to the approval of the Governor in Council. Beyond this, competition was relied upon to bring rates to a reasonable level. As time went on, however, those who believed in the efficacy of competition as a regulator were disillusioned. For example, complaints were made that the Grand Trunk gave low through transit rates, say from Chicago to New York, through Canada, and recouped itself by high non-competitive rates in Upper Canada. In 1888 the supervision of rates was assigned to the Railway Committee of the Privy Council, sitting in Ottawa.

At the turn of the century, two reports were prepared for the Department of Railways and Canals by Professor S. J. McLean, the first setting down the experience of railway commissions in England and the United States, and the second discussing Canadian rate grievances, with a recommendation that regulation by commission be adopted in Canada. The second report found that noncompetitive rates were exorbitant as compared with competitive ones and that the railways had exercised their right to vary rates without notice, to the great distress of shippers. Among the weaknesses of the Railway Committee as a rate-regulating body was its fixed station at Ottawa, which made the cost of appearing before it practically prohibitive. Besides, members of Parliament had no necessary aptitude for dealing with railway rates, and of their two functions—legislative and administrative—the legislative was to them the more important.

The Board of Railway Commissioners for Canada, as provided for by the amended Railway Act of 1903, was organized on Feb. 1, 1904. In the beginning, its membership consisted of a Chief Commissioner, a Deputy Chief and one Commissioner. In 1908 the membership was increased by the inclusion of an Assistant Chief Commissioner and two other Commissioners. According to the Act, the Board may be divided into two sections of three, but since any two members constitute a quorum, two Commissioners usually hear all but the more important cases, and, agreeing, give the decision of the Board.

The powers of the Commission, in brief, are in matters relating to the location, construction and operation of railways. The most important of these powers has to do with rate regulation. Passenger rates are divided into standard and special, freight rates into standard, special and competitive. Standard rates are maximum rates and the only ones which must be approved by the Board before they are applied. Special and competitive rates, being less than maximum rates, may be applied by railways without the Board's approval, provided that a change of rates has been advertised. But important rate adjustments usually come to the notice of the Commission, for the changed rate alters the extent of the territory in which a shipper can compete and on this account he is apt to appeal the case to the Commission. It is a knotty problem to mark the boundaries of competitive areas—to decide whether Nova Scotian manufacturers should be given rates which would allow them to compete west of Montreal, or again, whether high construction and operation costs in British Columbia should enforce a rate which prevents her goods from moving far into the prairies. By an amendment to the Railway Act, the regulation of telephone, telegraph and express rates was given to the Commission, but with narrower powers than were given to it in dealing with railways.

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[1] Revised by A. D. Cartwright, Secretary, Board of Railway Commissioners for Canada.

The procedure of the Board is informal, as suits the nature of its work, for experience has shown that hearings in strict legal form give the parties to the argument uncompromising attitudes. If possible, matters are settled by recommendations to the railway company or the shipper; thus, during 1930, 95 p.c. of the applications to the Board were settled without formal hearing. The Railway Committee had kept its station at Ottawa, giving only formal hearings, so that the grievances of those who could not afford to appear in person or pay counsel went unredressed. The itineraries of the Railway Commission are arranged so that evidence may be taken at the least expense to those giving it.

The Chief or Assistant Chief Commissioner, depending upon which one is presiding, gives final judgment on points of law when, in the opinion of the Commissioners, the question is one of law. On questions of fact the findings of the Board are final and are not qualified by previous judgments of any other court. Questions of law and jurisdiction are differentiated. In the first case, the Board may, if it wishes, allow an appeal to the Supreme Court; in the second, the applicant needs no permission to present his appeal.

The Railway Committee of the Privy Council, being a Committee of the Cabinet, was responsible to Parliament. When the powers of the Committee were made over to the Railway Commission the responsibility was retained, but necessarily by a different means. There is now provision for an appeal from any decision to the Governor in Council, who may also of his own motion interfere to rescind or vary the action of the Board, but the power to rescind or vary usually consists in referring to the Board for reconsideration. From its inception until Dec. 31, 1930, the Board gave formal hearing to 9,764 cases. Its decision was appealed in 94 cases, 53 of these being to the Supreme Court of Canada and 41 to the Governor General in Council. Of the appeals 11 of those carried to the Supreme Court were allowed and 3 of those to the Governor General in Council.

PART II.—STEAM RAILWAYS.[1]

Section 1.—Historical Sketch.

The first Canadian railway was constructed in 1836 between St. Johns and Laprairie, Quebec, with the object of shortening the journey between Montreal and New York. A second railway from Montreal to Lachine was opened in 1847, and a third line to St. Hyacinthe in 1848. In 1850, however, there were only 66 miles of railway in all Canada.

Commencement of the Railway Era—The Grand Trunk.—The railway era in Canada may be said to have begun in 1851, when an Act was passed providing for the construction of a main line of railway between the two Canadas. The result was the completion of the Grand Trunk Railway between Montreal and Toronto in 1856, its extension westward to Sarnia in 1859, and eastward to

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[1] Revised and checked by G. S. Wrong, B.Sc., Chief of the Transportation and Public Utilities Branch of the Dominion Bureau of Statistics. This branch publishes an Annual Report on Steam Railways, as well as numerous other reports, for a full list of which the reader is referred to Chapter XXVIII of this volume.

Rivière du Loup in 1860. The Atlantic and St. Lawrence Railway, from Portland, Maine, to the Canadian boundary, was leased for 999 years, and in 1859, on the completion of the Victoria bridge across the St. Lawrence at Montreal, the Grand Trunk had a through route 800 miles long from Portland to Sarnia. A line from Detroit to Port Huron was leased in 1859, the Champlain roads in 1863, the Buffalo and Lake Huron in 1867, while the Chicago and Grand Trunk was completed from Port Huron to Chicago in 1880. In 1881 the Georgian Bay and Lake Erie system (171 miles) was incorporated, and in the following year the Great Western (904 miles) and the Midland systems (473 miles) were also incorporated into the Grand Trunk. In 1888 the Northern Railway, which had been opened from Toronto to Barrie in 1853, and the Hamilton and Northwestern Railway, were taken over by the Grand Trunk. In 1891 the completion of the St. Clair tunnel gave direct communication with the railways of the United States. In the 1870's the gauge had been changed from the original 5′ 6″ to the standard gauge of 4′ 8½″.

Construction of the Intercolonial.—An intercolonial railway between the Maritime Provinces and Canada had been proposed as early as the 1830's. In 1844 the Imperial Government made a survey for a military road, and in 1851 agreed to recommend to Parliament either a guarantee of interest or an advance of the sum required to build a railroad. Differences of opinion as to the route resulted in the project falling through, but in 1853 Nova Scotia undertook to construct by 1862 a trunk line from Halifax to the New Brunswick frontier, with branch lines to Pictou and Victoria Beach. In both Nova Scotia and New Brunswick, however, the scheme of an intercolonial railway broke down for lack of funds, and in 1867 there were only 373 miles of railway in the Maritimes—229 miles in New Brunswick, including lines from Saint John to Shediac and from St. Andrews to Richmond; 145 miles in Nova Scotia, including lines from Halifax to Truro and Windsor, and from Truro to Pictou. These, under the B.N.A. Act, passed to the Dominion Government. The latter undertook the completion of the railway, and in 1876 the line was opened. In 1879 the Rivière du Loup branch of the Grand Trunk was acquired, and in 1898 the Drummond Counties Railway from Chaudière Junction to Ste. Rosalie Junction was leased and running rights obtained from the latter point over the Grand Trunk tracks into Montreal, the Intercolonial thus becoming a competitor for the business of the commercial metropolis of Canada.

The First Transcontinental Railway—the C.P.R.—As early as 1849 a pamphlet published by Major Carmichael-Smyth advocated the construction of a Canadian Pacific railway nearly along the present route. In 1851 a Parliamentary Committee reported against undertaking the enterprise at that time. In 1871 the terms under which British Columbia entered Confederation bound the Dominion to commence the Pacific railway within two years and complete it within ten years. The building of the railway as a public work actually commenced in 1874, but was not very rapidly pushed forward. In 1880 the Government entered into a contract with the Canadian Pacific Railway syndicate, granting to the syndicate all portions of the line completed or under construction, a cash subsidy of $25,000,000, a land grant of 25,000,000 acres, free admission of materials for construction, and protection for 20 years against competing lines. The company on its side agreed to complete the railway to a fixed standard by May 1, 1891, and thereafter to maintain it efficiently. As a matter of fact the last spike on the main line was driven on Nov. 7, 1885. Like the Grand Trunk, the Canadian Pacific Railway began to acquire branch lines as feeders, among them being the North Shore, Quebec, Montreal, Ottawa and Occidental in 1881, the Winnipeg to Manitou line in 1882, the Ontario and Quebec, the Credit Valley and the Toronto, Grey and Bruce in 1883, the St. Lawrence and Ottawa, and the Manitoba Southwestern in 1884, the North Shore, Nova Scotia, in 1885, the Atlantic and Northwest in 1886, the West Ontario Pacific in 1887, the Sudbury and Sault Ste. Marie in 1888, the New Brunswick Railway and the Columbia and Kootenay in 1890 and the Montreal and Ottawa and Montreal and Lake Maskinongé in 1892.

The Second Transcontinental—the Grand Trunk Pacific.—About the end of the century the Grand Trunk, which already had a line as far west as Chicago, submitted to the Canadian Government a proposal whereby it might participate in the settlement and development of the West. Lines were to be leased from Chicago *via* Minneapolis to Winnipeg and thence a new line, subsidized by the Government, would be built to the Pacific Coast. The Government raised objections to so much of the line lying in the United States and a second proposal was made for a connecting line with larger subsidies from North Bay to Winnipeg. The Government in 1903 submitted a counter proposal that the line, instead of terminating at North Bay, should be continued east to Moncton, New Brunswick, the eastern section from Moncton to Winnipeg to be constructed by the Government and leased to the Grand Trunk Pacific for a 50-year period, the railway paying no rent for the first seven years and 3 p.c. on the cost of the railway for the remaining 43 years. The western half of the railway from Winnipeg to Prince Rupert was to be built by the Grand Trunk Pacific, the Government guaranteeing interest on bonds to 75 p.c. of the cost of construction, not exceeding $13,000 per mile on the prairie section and $30,000 per mile on the mountain section. The Grand Trunk reluctantly accepted this proposition and construction of the National Transcontinental and Grand Trunk Pacific commenced.

The Third Transcontinental—the Canadian Northern Railway.—The third transcontinental railway, the Canadian Northern, was begun in 1896 with the completion by Mackenzie and Mann of the 125-mile line of the Lake Manitoba Railway and Canal Co., chartered in 1889. Next were acquired the charters of the Winnipeg and Hudson Bay, the Manitoba and Southeastern, the Ontario and Rainy River, and the Port Arthur, Duluth and Western. Assisted by the Manitoba Government, which desired to establish competition with the Canadian Pacific Railway, the Canadian Northern next secured the Manitoba lines of the Northern Pacific and in 1902 completed its line from Winnipeg to Port Arthur. During the following decade, the agricultural west was filling up very rapidly and with the public of Canada under the influence of this boom, the Canadian Northern Railway was able to secure guarantees of bonds from the Dominion and Provincial Governments to enable it to extend its lines both westward to Vancouver and eastward to Montreal and so complete the great scheme of a transcontinental road.

Effect of the War on the Railways—the Drayton-Acworth Report.—With two new transcontinental main lines, besides branches, under construction, Canadian railway mileage was doubled between 1900 and 1915, increasing from 17,657 miles in the former year to 34,882 miles in the latter. The builders of the new lines, as well as the Canadian Government and people, had expected that immigration of capital and labour from Europe would rapidly settle the areas tributary to the new railroads and give them abundant and lucrative traffic, as had been the case with the C.P.R. Instead, the war came, and European labour and capital were conscripted for the struggle; immigration fell off, while cost of operation increased, owing to the scarcity of labour and material in Canada. The interest on the bonds had to be met, and in 1915 the Government felt it necessary to give assistance to the railways. In 1916, after having again made loans to the Grand Trunk Pacific Railway and the Canadian Northern Railway Co., a Royal Commission was appointed by Order in Council of July 13, 1916, to investigate:—(1) the general problem of transportation, (2) the status of each of the three transcontinental systems, (3) the reorganization of any of the said systems, or their acquisition by the State, and (4) other matters considered by the Commission to be relevant to the general scope of the inquiry. Alfred Holland Smith of New York, Sir Henry Drayton of Ottawa and Sir George Paish of London, England, were originally appointed to the Commission. On the resignation of the latter, William M. Acworth, a distinguished English authority on railways, was appointed to take his place. The majority report of the Commission, signed by Sir Henry Drayton and Mr. Acworth, has formed the basis of the subsequent railway policy of Canada. Their recommendation was that the public should take control of the Canadian Northern, of the Grand Trunk Pacific and of the Grand Trunk proper, and that they should be administered on purely business principles by a board of trustees, such compensation as seemed proper to be decided by arbitration and given to the shareholders of the Canadian Northern and the Grand Trunk.

The process of the acquisition of these railways and the financial results of their operation down to the end of 1929 are described in Section 3, "The Origin and Growth of Government-owned Railways in Canada", appearing on pages 667 to 677 of this volume, and illustrated by tables dealing with capital expenditure, physical operations, earnings and expenses, and the growth of the railway debt to the public and to the Government.

Section 2.—Statistics of Steam Railways.

The steam railways of the world may be said to have commenced their operations with the opening of the Stockton and Darlington Railway in England on Sept. 26, 1825. In the intervening century, the mileage of the steam railways of the world has increased to an estimated total of 771,245 miles, of which figure 291,887 miles are State railways. Of the enormous total, nearly one-third, or 249,432 miles, is in the United States. Canada is second with 41,073 miles (exclusive of 336 miles of Canadian railways in the United States) and British India third with 38,736 miles. Germany has 36,218 miles, France 33,208 miles, Russia in Europe 36,359 miles and in Asia 11,298 miles, Australia 27,409 miles, Great Britain and Ireland 24,342 miles, Argentina 23,430 miles, Brazil 19,560 miles, Mexico 16,406 miles.[1] Of all the leading countries of the world Canada has the smallest population per mile of her railway lines, *viz.*, 235.

The mileage of steam railways in operation in Canada is given by single years for each year from 1850 to 1929 in Table **1**, showing the first great period of construction in the 1850's, when the mileage grew from 66 to 2,065, the lull in the 1860's, the second great period of construction in the 1870's and 1880's, the lull in the 1890's, the third great period of construction between 1900 and 1915 and the subsequent falling-off in the rate of increase.

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[1] From Slason Thompson's Railway Statistics of the United States of America, 1929, p. 34 with revisions for Canada and United States.

1.—Record of Steam Railway Mileage as at June 30, 1835-1919, and Dec. 31, 1919-1929.

Year.	Number of Miles in Operation.	Year.	Number of Miles in Operation.	Year.	Number of Miles in Operation.	Year.	Number of Miles in Operation.
1835	–	1868	2,270	1889	12,628	1910	24,731
1836-1846	16	1869	2,524	1890	13,151	1911	25,400
1847-1849	54	1870	2,617	1891	13,838	1912	26,840
1850	66	1871	2,695	1892	14,564	1913	29,304
1851	159	1872	2,899	1893	15,005	1914	30,795
1852	205	1873	3,832	1894	15,627	1915	34,882
1853	506	1874	4,331	1895	15,977	1916	36,985
1854	764	1875	4,804	1896	16,270	1917	38,369
1855	877	1876	5,218	1897	16,550	1918	38,252
1856	1,414	1877	5,782	1898	16,870	1919	38,330
1857	1,444	1878	6,226	1899	17,250	1919	38,496
1858	1,863	1879	6,858	1900	17,657	1920	38,806
1859	1,994	1880	7,194	1901	18,140	1921	39,192
1860	2,065	1881	7,331	1902	18,714	1922	39,360
1861	2,146	1882	8,697	1903	18,988	1923	39,665
1862	2,189	1883	9,577	1904	19,431	1924	40,061
1863	2,189	1884	10,273	1905	20,487	1925	40,352
1864	2,189	1885	10,773	1906	21,423	1926	40,352
1865	2,240	1886	11,793	1907	22,446	1927	40,572
1866	2,278	1887	12,184	1908	22,966	1928	41,024
1867	2,278	1888	12,163	1909	24,104	1929	41,409

The mileage in the different provinces is given for recent years in Table **2**. Construction was most active in Saskatchewan and Alberta, as will be seen from the increased mileage recorded by these provinces during the period covered.

2.—Steam Railway Mileage, by Provinces, Dec. 31, 1921-1929.

Province.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
	miles.	miles.	miles.	miles.	miles.	miles.	miles.	miles.	miles.
Single Track—									
Prince Edward Island	279	278	277	276	276	276	276	276	276
Nova Scotia	1,452	1,451	1,447	1,427	1,427	1,426	1,424	1,421	1,420
New Brunswick	1,948	1,948	1,947	1,942	1,935	1,935	1,935	1,935	1,934
Quebec	4,971	4,920	4,919	4,882	4,797	4,767	4,859	4,910	4,891
Ontario	10,976	10,940	10,957	10,947	10,908	10,870	10,834	10,866	10,872
Manitoba	4,417	4,527	4,521	4,520	4,540	4,296	4,293	4,293	4,294
Saskatchewan	6,296	6,438	6,518	6,912	7,056	7,268	7,358	7,551	7,761
Alberta	4,557	4,567	4,784	4,818	4,965	5,048	5,139	5,307	5,543
British Columbia	3,968	3,960	3,966	3,976	4,117	4,072	4,060	4,071	4,024
Yukon	58	58	58	58	58	58	58	58	58
In United States	270	273	273	273	273	336	336	336	336
Totals, Single Track	**39,192**	**39,360**	**39,665**	**40,061**	**40,352**	**40,352**	**40,572**	**41,024**	**41,409**
Second track	2,629	2,608	2,591	2,619	2,614	2,620	2,647	2,639	2,659
Industrial track	–	–	–	–	1,555	1,591	1,611	1,662	1,607
Yard track and sidings	9,755	9,892	9,680	10,012	9,579	9,716	9,887	10,130	10,193
Grand Totals, All Tracks	**51,576**	**51,860**	**51,936**	**52,692**	**54,100**	**54,279**	**54,717**	**55,455**	**55,868**

Capital Liability.—The capital liability of the steam railways of Canada is shown in Table **3** for the years 1901 to 1929. The great increase after 1922 is due to the inclusion of all Government loans to railways and investment in road and equipment of Government railways as part of the capital liability of the railways. Statistics of individual lines are given in Table **4**. In Table **5** will be found statistics of the actual capital investment in road and equipment of Canadian railways as at the end of each of the six years ended 1929.

3.—Capital Liability of Steam Railways, June 30, 1901-1919, and Dec. 31, 1919-1929.

NOTE.—Corresponding figures for each year from 1876 to 1900 inclusive are given on p. 649 of the 1927-28 Year Book.

Year.	Stocks.	Funded Debt.	Total.	Year.	Stocks.	Funded Debt.	Total.
	$	$	$		$	$	$
1901....	424,414,314	391,696,523	816,110,837	1916...	1,024,264,325	868,861,449	1,893,125,774
1902....	460,401,863	404,806,847	865,208,710	1917...	1,089,114,875	896,005,116	1,985,119,991
1903....	483,770,312	424,100,762	907,871,074	1918...	1,093,885,495	905,994,999	1,999,880,494
1904....	492,752,530	449,114,035	941,866,565	1919...	1,100,301,195	914,823,515	2,015,124,710
1905....	526,353,951	465,543,967	991,897,918	1919...	1,104,409,122	931,756,484	2,036,165,606
1906....	561,655,395	504,226,234	1,065,881,629	1920...	1,323,705,962	846,324,166	2,170,030,128
1907....	588,568,591	583,369,217	1,171,937,808	1921...	1,372,545,165	792,142,471	2,164,687,636
1908....	607,891,349	631,869,664	1,239,761,013	1922...	1,415,623,322	743,653,809	2,159,277,131
1909....	647,534,647	660,946,769	1,308,481,416	1923...	1,385,080,426	1,879,593,612[1]	3,264,674,038[1]
1910....	687,557,387	722,740,300	1,410,297,687	1924...	1,401,263,285	2,012,602,328[1]	3,413,865,613[1]
1911....	749,207,687	779,481,514	1,528,689,201	1925...	1,378,706,860	2,092,374,049[1]	3,471,080,909[1]
1912....	770,459,351	818,478,175	1,588,937,526	1926...	1,381,762,345	2,179,186,587[1]	3,560,948,932[1]
1913....	918,573,740	613,256,952	1,531,830,692	1927...	1,350,249,167	2,287,588,330[1]	3,637,837,497[1]
1914....	1,026,418,123	782,402,638	1,808,820,761	1928...	1,376,951,622	2,345,524,629[1]	3,722,476,251[1]
1915....	1,024,085,983	851,724,905	1,875,810,888	1929...	1,426,680,988	2,539,676,366	3,966,357,355[1]

[1] Includes all Government loans to railways and investment in road and equipment of Dominion and provincial railways.

4.—Mileage, Capital Liability, Earnings and Operating Expenses of Individual Steam Railways for the calendar year 1929.

Name of Railway.	Single Track Mileage.	Capital Liability.	Gross Earnings from Operation.	Operating Expenses.
	miles.	$	$	$
Alberta and Great Waterways................	–	–	159,466	131,080
Algoma Central and Hudson Bay.............	323·84	25,391,513	2,009,835	1,928,689
Algoma Eastern................................	88·52	5,226,500	1,068,044	596,553
Alma and Jonquière............................	10·60	629,800	95,466	88,939
Atlantic, Quebec and Western.................	–	–	92,978	99,865
Brandon, Sask. and Hudson Bay..............	84·75	2,602,000	81,951	166,785
British Yukon..................................	90·32	4,978,879	207,693	128,224
Burrard Inlet Tunnel and Bridge Co..........	–	1,600,681	–	–
Canada and Gulf Terminal.....................	38·10	1,740,000	128,520	97,278
Canada Southern...............................	381·04	44,365,000	25,082,685	15,248,455
Canadian National..............................	18,231·00[1]	–	217,604,469	183,408,504[1]
" " Eastern Lines............	3,332·54[1]	–	30,618,007[1]	33,815,382[1]
" " Totals.....................	21,563·54[1]	2,708,714,992[2]	248,222,476[1]	217,223,886[1]
Canadian Pacific...	14,812·00	882,890,417[2]	211,635,661	164,304,607
Central Canada.................................	–	–	49,812	75,147
Central Vermont...............................	25·33[1]	2,161,415[3]	266,998	261,817
Crow's Nest Southern..........................	53·32	4,295,000	152,774	120,496
Cumberland Railway and Coal Co............	31·29	1,328,224	220,856	152,219
Detroit River Tunnel Co.......................	3·26	21,000,000	–	–
Dominion Atlantic..............................	304·54	8,431,500	1,937,278	1,807,402
Eastern British Columbia......................	13·04	420,000	62,665	64,069
Edmonton, Dunvegan and British Columbia.	–	–	792,334	440,328
Esquimalt and Nanaimo........................	209·70	7,332,000	1,689,899	1,011,450
Essex Terminal.................................	21·44	1,120,000	470,256	289,976
Fredericton and Grand Lake Coal and Ry. Co.	31·10	605,000	110,631	70,648
Greater Winnipeg Water District..............	92·00	1,797,136	93,614	97,915
International Bridge and Terminal Co........	1·06	300,000	–	–
Kettle Valley....................................	404·66	15,960,000	2,326,811	1,695,355
Maine Central...................................	5·10	100,243	14,099	18,948
Maritime Coal, Railway and Power Co.......	16·40	3,746,600	111,368	76,013

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[1] Canadian lines only. [2] Including capital of leased lines. [3] Including only capital of lines leased in Canada.

4.—Mileage, Capital Liability, Earnings and Operating Expenses of Individual Steam Railways for the calendar year 1929—concluded.

Name of Railway.	Single Track Mileage.	Capital Liability.	Gross Earnings from Operation.	Operating Expenses.
	miles.	$	$	$
Massawippi Valley	[5]	800,000	–	–
Midland Railway of Manitoba	75·76	4,800,000	472,239	418,620
Montreal and Atlantic	184·60	5,518,000	1,852,182	1,697,466
Morrissey, Fernie and Michel	5·37	1,263,000	128,726	107,536
Napierville Junction	43·04	600,000	681,227	537,260
Nelson and Fort Sheppard	60·79	2,846,800	78,978	107,853
New Brunswick Coal and Railway Co	59·20	1,600,754	51,028	68,644
Nipissing Central[4]	59·74	–	207,080	202,615
Northern Alberta	862·03	26,250,000	1,217,930	775,770
Ottawa and New York	58·77	2,100,000	285,625	341,239
Pacific Great Eastern	348·10	62,881,811	561,275	617,119
Pembina Valley	–	–	7,951	14,785
Père Marquette (including L.E.D.R.)	336·88	7,400,000	5,765,734	3,270,155
Quebec Central	357·82	12,348,344	3,250,450	2,409,165
Quebec, Montreal and Southern	–	–	304,106	313,042
Quebec Oriental	–	–	126,962	107,549
Quebec Railway, Light and Power Co	25·55	3,276,030	710,849	524,328
Roberval-Saguenay	41·82	3,330,000	509,530	296,557
Rutland and Noyan	3·36	200,000	4,499	6,907
St. Lawrence and Adirondack	60·26	2,815,000	1,013,854	934,228
Saint John Bridge and Ry. Extension	[6]	758,900	–	–
Sydney and Louisburg	76·53	4,812,545	1,679,687	1,219,940
Temiscouata	113·00	3,856,336	336,782	291,003
Temiskaming and Northern Ontario[4]	388·50	37,407,935	4,956,784	3,649,496
Thousand Islands	4·51	60,000	91,732	80,929
Toronto, Hamilton and Buffalo	111·03	10,695,000	4,065,629	2,445,802
Van Buren Bridge Co	0·36	500,000	–	–
Vancouver, Victoria and Eastern	250·97	23,500,000	707,764	630,538
Wabash (in Canada)	245·40	–	7,923,272	5,812,423
Totals, (including Trackage Rights Duplications)	**42,378·34**	**3,966,357,355**	**534,106,045**	**433,077,113**
Canadian National (Can. and U.S.)	22,903·90	–	290,496,980	248,632,275

[4] Constructed and operated by Ontario Government Railway Commission. [5] Included with Quebec Central. [6] Included with Canadian Pacific.

Capital Investment.—The capital investment in road and equipment of Canadian steam railways is shown in Table **5** for the calendar years 1924-1929. The table gives the investment in new lines and in additions and betterments during the year, together with the cumulative total of such investments as at the end of each year. During 1929, $38,111,226 was invested in new lines and $106,926,685 in additions and betterments, while up to Dec. 31, 1929 a total of $3,153,350,558 had been invested in road and equipment of Canadian steam railways. When comparison is made with the figures of Table **3**, it is seen that the capital liability of the steam railways was considerably greater than the actual investment in physical property by the railways at the same date. This discrepancy is largely accounted for by the fact that the total of capital liabilities as shown in Table **3** includes loans and advances from the Government to cover deficits of the Canadian National Railways and unpaid accrued interest on such loans, which during the 7 years 1923 to 1929 amounted to nearly $278,000,000 as shown in Table **23** and which in the years 1919 to 1922 had amounted to about $264,000,000. A further factor in the discrepancy was that some of the outstanding railway stocks represent no actual investment in physical property.

5.—Capital Invested in Road and Equipment of Canadian Steam Railways, calendar years 1924-1929.

Investment.	1924.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$	$
New Lines—						
Road.......	5,739,382	10,353,357	10,030,081	14,488,059	30,003,540	37,210,328
Equipment.	32,069	Cr. 3,399	129,645	448,649	351,447	31,125
General.....	2,396,790	2,442,175	277,356	2,807,259	488,806	869,773
Totals.......	8,168,241	12,792,133	10,437,082	17,743,967	30,843,793	38,111,226
Additions and Betterments-						
Road.........	25,571,368	15,251,545	19,515,536	32,188,136	33,682,796	44,445,646
Equipment...	9,895,974	1,629,939	2,121,625	20,081,275	11,432,446	59,240,026
General.......	Cr. 110,365	Cr. 95,460	2,387,982	138,644	2,659,759	3,210,802
Undistributed	2,625,247	702,450	1,089,943	Cr. 74,948	Cr. 75,020	30,211
Totals......	37,982,224	17,488,474	25,115,086	52,333,107	47,699,981	106,926,685
Undistributed..	623,913	Cr. 178,020	Cr.15,415,510[1]	1,598,437	Cr.15,292,546[2]	Cr. 8,825,153[3]
Totals, investments, as at Dec. 31.......	**2,831,971,816**	**2,862,074,403**	**2,882,211,061**	**2,953,886,572**	**3,020,059,995**	**3,153,350,558**

[1] Includes a credit of $14,944,515 on account of Hudson Bay Railway not operated and returned to Dominion Government for completion.

[2] Includes a credit of $13,477,505 on account of Canadian National property transferred to Harbour Commissions of Halifax and Saint John.

[3] Includes difference between purchase price of Atlantic, Quebec and Western; Kent Northern; Quebec, Montreal and Southern; and Quebec Oriental Railways and investment reported in 1928—a credit of $7,198,024; difference between valuation of Northern Alberta Railways and investment of Alberta and Great Waterways; Central Canada; Edmonton, Dunvegan and British Columbia; and Pembina Valley Railways as at June 30, 1929—a credit of $5,639,429; a credit of $1,869,859 for the Hereford Railway which ceased operation, and additions and betterments to separately operated properties and other undistributed items amounting to a debit of $5,882,159.

Summary of Traffic Statistics.—A summary of freight and passenger traffic statistics and of the ratio of operating expenses to gross earnings, continuing a series which has been compiled since 1875, will be found for the years 1911 to 1929 in Table **6.** This table has, however, the defect that its figures of passengers and freight carried are not comparable throughout but have been reduced as a result of the consolidation of railways. Better tests of the real volume of passenger and freight traffic are supplied in Table **9** of this chapter under the headings "Passengers carried one mile" and "Freight carried one mile". These records, commencing in 1915, show that the maximum volume of passenger traffic was reached in the calendar year 1919 and the maximum volume of freight traffic in 1928. Both freight and passenger traffic have in recent years been affected by the increase in the use of motor vehicles.

The statistics of gross earnings and operating expenses illustrate the difficulties confronting our railways in recent years. Before the war it was generally held that, on account of the enormous initial investment required in roadbed and equipment, a railway's operating expenses should not exceed about two-thirds or 70 p.c. of its gross earnings, the remainder being required to meet interest on capital invested, whether in stocks or bonds, as well as to provide for necessary improvements. The ratio of operating expenses to gross earnings is called the operating ratio, and in 1913 the Canadian operating ratio was 70·90 p.c. The new conditions of the war period, especially the higher cost of labour and of fuel, swelled the operating ratio, in spite of advances in freight and passenger rates, until in 1920 it reached 97·18 p.c., since when there has been a decline to a ratio of 78·53 in 1928 and 81·08 in 1929. Although operating expenses for 1929 were lower than in 1928 on account of the decreases in both freight and passenger traffic, the gross revenues showed a much greater decline which reduced the net operating revenues by $20,002,058 and increased the operating ratio from 78·53 p.c. to 81·08 p.c.

In Table 7 will be found an analysis of the distribution of the operating expenses of steam railways for the latest four years, the 1929 figures showing decreases compared with 1928, due to decreased volume of traffic. The earnings and operating expenses per mile of line and per train-mile are analysed in Table **8.**

6. Summary of Steam Railway Statistics of Freight and Passenger Traffic, and Ratio of Expenses to Earnings, years ended June 30, 1911-1919, and calendar years 1919-1929.

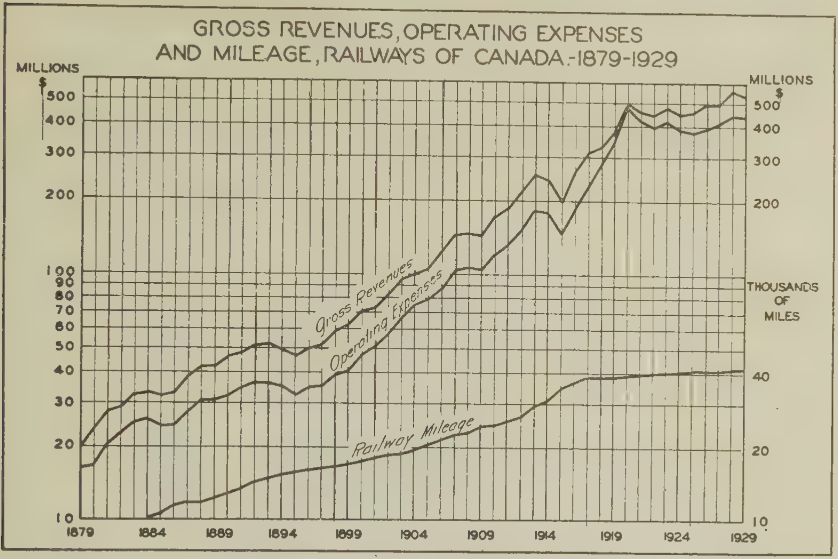
Note.—These statistics were published for the years 1875-1910 on p. 434 of the 1916-17 Year Book, and for 1901-1910 on p. 591 of the 1926 Year Book.

Year.	Miles in Operation.	Total Train-Miles.	Passengers Carried.[1]	Freight Carried.[1]	Gross Earnings.	Operating Expenses.	Ratio of Expenses to Receipts.
	No.	No.	No.	tons.	$	$	p.c.
1911	25,400	89,716,533	37,097,718	79,884,282	188,733,494	131,034,785	69·43
1912	26,727	100,930,271	41,124,181	89,444,331	219,403,753	150,726,540	68·70
1913	29,304	113,437,208	46,185,968	106,992,710	256,702,703	182,011,690	70·90
1914	30,795	107,895,272	46,702,280	101,393,989	243,083,539	178,975,259	73·63
1915	35,582	93,218,479	46,322,035	87,204,838	199,843,072	147,731,099	73·92
1916	37,434	111,075,890	43,503,459	100,659,088	261,888,654	180,542,259	68·94
1917	38,604	115,797,100	48,106,530	121,916,272	310,771,479	222,890,637	71·72
1918	38,484	109,857,560	44,948,638	127,543,687	330,220,150	273,955,436	82·96
1919	38,501	103,832,835	43,754,194	116,699,572	382,976,901	341,866,509	89·27
1919 (Dec. 31)	38,663	107,053,735	47,940,456	111,487,780	408,598,361	376,789,093	92·26
1920 (")	38,976	117,384,819	51,318,422	127,429,154	492,101,104	478,248,154	97·18
1921 (")	39,363	104,652,167	46,793,251	103,131,132	458,008,891	422,581,205	92·25
1922 (")	39,360	107,625,144	44,383,620	108,530,518	440,687,128	393,927,406	89·39
1923 (")	39,665	113,907,613	44,834,337	118,289,604	478,338,047	413,862,818	86·52
1924 (")	40,061	110,032,845	42,921,809	106,429,355	445,923,877	382,483,908	85·77
1925 (")	40,352	109,289,865	41,458,084	109,850,925	455,297,288	372,149,656	81·70
1926 (")	40,352	113,538,876	42,686,166	122,476,822	493,599,754	389,503,452	78·91
1927 (")	40,572	116,895,751	41,840,550	125,967,439	499,064,207	407,646,280	81·68
1928 (")	41,024	125,034,253	40,592,792	141,230,026	563,732,260	442,701,270	78·53
1929 (")	41,409	117,645,670	39,070,843	137,855,151	534,106,045	433,077,113	81·08

[1]Include duplications. See Table **9.**

7.—Distribution of Operating Expenses of Steam Railways, for the calendar years 1926-1929.

Item of Expenditure.	1926.		1927.		1928.		1929.	
	$	p.c.	$	p.c.	$	p.c.	$	p.c.
Way and structures	81,095,525	20·82	86,436,213	21·24	97,763,472	22·08	94,021,972	21·71
Equipment	91,824,825	23·58	93,801,950	23·00	101,945,151	23·02	100,133,913	23·12
Traffic expenses	16,113,495	4·14	17,668,103	4·33	17,995,239	4·07	18,431,366	4·26
Transportation	184,027,865	47·24	192,241,574	47·14	208,049,857	47·00	202,944,180	46·86
General and misc. expenses	16,441,742	4·22	17,498,440	4·29	16,947,551	3·83	17,545,682	4·05
Totals	**389,503,452**	**100·00**	**407,646,280**	**100·00**	**442,701,270**	**100·00**	**433,077,113**	**100·00**



8.—Earnings and Operating Expenses of Steam Railways per Mile of Line and per Train Mile, for the years ended June 30, 1915-19, and the calendar years 1919-29.

Year.	Per Mile of Line.			Per Train Mile.	
	Gross Earnings.	Operating Expenses.	Net Earnings.	Gross Earnings.	Operating Expenses.
	$	$	$	$	
1915 (June 30)	5,616	4,152	1,464	2·144	$1·585
1916 (")	6,943	4,823	2,120	2·358	1·623
1917 (")	8,051	5,774	2,277	2·683	1·925
1918 (")	8,581	7,119	1,462	3·006	2·494
1919 (")	9,947	8,879	1,068	3·683	3·292
1919 (Dec. 31)	10,568	9,745	923	3·817	3·520
1920 (")	12,626	12,270	356	4·192	4·074
1921 (")	11,636	10,735	901	4·376	4·038
1922 (")	11,196	10,008	1,188	4·095	3·660
1923 (")	12,098	10,434	1,664	4·199	3·630
1924 (")	11,233	9,548	1,685	4·053	3·473
1925 (")	11,383	9,222	2,161	4·166	3·402
1926 (")	12,278	9,653	2,625	4·347	3·431
1927 (")	12,350	10,047	2,303	4·269	3·487
1928 (")	13,840	10,791	3,049	4·509	3·541
1929 (")	13,067	10,596	2,472	4·540	3·681

A summary analysis of passenger and freight traffic statistics for recent years is given in Table **9,** showing among other things a decline in average receipts per passenger per mile from 3·04 cents in 1921 to 2·77 cents in 1929, and a decline in the average number of passengers per train from 70 in 1919 and 64 in 1920 to 56 in 1929. Similarly, freight traffic statistics show a reduction in freight receipts per ton per mile from 1·200 cents in 1921 to 1·099 cents in 1929. The average haul for freight has been revised to show the average for all railways instead of for each railway, thereby eliminating the effects of consolidations of railways and of interchanging freight between Canadian railways. The passenger traffic has shown the effects of the competition of motor vehicles, both public and private, which in 1915, numbered less than 100,000, while in 1929 they numbered about 1,200,000. The average revenue per passenger increased in 1918 and 1919 with increases in rates, but the increases in later years have been largely due to decreases in the short haul traffic. The increases in freight train loading and train revenues have been the results of larger and more powerful locomotives.

9.—Summary Analysis of Statistics of Passenger and Freight Services and Receipts, for the years ended June 30, 1915-19, and the calendar years 1919-29.

PASSENGERS.

Year.	Passengers Carried.	Passengers Carried one Mile.	Passengers Carried one Mile per Mile of Line.	Average Receipts per Passenger Mile.
	No.	No.	No.	cents.
1915 (June 30)	46,322,035	2,483,708,745	69,802	2·02
1916 (")	43,503,459	2,727,122,648	72,611	1·95
1917 (")	48,106,530	3,150,127,428	79,829	1·95
1918 (")	44,948,638	3,161,082,402	82,140	2·12
1919 (")	43,754,194	3,074,664,369	79,859	2·56
1919 (Dec. 31)	47,940,456	3,658,492,716	94,625	2·63
1920 (")	51,318,422	3,522,494,856	90,376	2·92
1921 (")	46,793,251	2,960,583,955	75,219	3·04
1922 (")	44,383,620	2,814,113,531	71,497	2·82
1923 (")	44,834,337	3,076,341,444	77,805	2·76
1924 (")	42,921,809	2,872,333,579	72,355	2·79
1925 (")	41,458,084	2,910,760,047	72,771	2·69
1926 (")	42,686,166	2,998,952,309	74,595	2·71
1927 (")	41,840,550	3,051,784,039	75,522	2·69
1928 (")	40,592,792	3,140,860,693	77,110	2·67
1929 (")	39,070,893	2,897,214,817	70,883	2·77

Year.	Average Receipts per Passenger.	Average Passenger Journey in Miles.	Average Number of Passengers per Train.	Passenger Train Revenue per Passenger Train Mile.
	$	miles.	No.	$
1915 (June 30)	1·08	54	50	1·02
1916 (")	1·08	55	53	1·04
1917 (")	1·14	59	59	1·16
1918 (")	1·49	70	64	1·71
1919 (")	1·80	70	63	2·01
1919 (Dec. 31)	2·01	76	70	2·26
1920 (")	2·00	68	64	2·36
1921 (")	1·92	63	57	2·30
1922 (")	1·79	63	55	2·10
1923 (")	1·90	69	64	2·51
1924 (")	1·87	67	59	2·34
1925 (")	1·89	70	60	2·33
1926 (")	1·90	70	61	2·41
1927 (")	1·96	73	61	2·38
1928 (")	2·06	77	61	2·38
1929 (")	2·06	74	56	2·33

FREIGHT.

Year.	Freight Carried.[1]	Freight Carried one Mile.	Freight Carried one Mile per Mile of Line.	Freight Receipts per Ton per Mile.
	tons.	tons.	tons.	cents.
1915 (June 30)	71,498,170	17,661,309,723	496,355	0·751
1916 (")	89,237,156	28,195,364,264	753,202	0·653
1917 (")	98,464,694	31,186,707,851	807,948	0·690
1918 (")	102,425,410	31,029,072,279	806,285	0·736
1919 (")	95,202,121	27,724,397,202	720,096	0·962
1919 (Dec. 31)	91,349,595	26,950,598,322	697,064	1·003
1920 (")	100,050,046	31,894,411,479	818,309	1·071
1921 (")	83,730,829	26,621,630,554	676,311	1·200
1922 (")	87,309,036	30,367,885,883	771,542	1·039
1923 (")	102,258,933	34,067,658,527	861,622	0·987
1924 (")	91,599,639	30,513,819,106	768,649	1·019
1925 (")	94,624,599	31,965,204,683	799,150	1·012
1926 (")	105,221,906	34,153,466,033	849,525	1·043
1927 (")	106,011,355	34,901,652,515	863,710	1·029
1928 (")	118,652,969	41,610,660,776	1,021,572	0·994
1929 (")	115,187,028	35,025,895,433	856,945	1·099

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[1] Duplications eliminated.

9.—Summary Analysis of Statistics of Passenger and Freight Services and Receipts, for the years ended June 30, 1915-19, and the calendar years 1919-29—concluded.

FREIGHT—concluded.

Year.	Receipts per Ton Hauled.	Average Length of Freight Haul in Miles.	Average Train Load in Net Tons.	Average Load per Loaded Car Mile.	Revenue per Freight Train Mile.
	$	miles.	tons.	tons.	$
1915 (June 30)	1·52	247	344	18·43	2·28
1916 (")	1·68	316	411	20·91	2·69
1917 (")	1·77	317	436	22·24	3·01
1918 (")	1·79	303	457	23·10	3·36
1919 (")	2·29	291	442	23·46	4·26
1919 (Dec. 31)	2·43	295	434	22·21	4·36
1920 (")	2·68	319	457	23·05	4·89
1921 (")	3·10	318	447	22·12	5·37
1922 (")	2·91	348	481	23·03	5·00
1923 (")	2·84	333	512	26·44	5·05
1924 (")	2·92	337	494	25·45	5·03
1925 (")	2·95	338	519	25·11	5·25
1926 (")	2·91	325	519	25·07	5·41
1927 (")	2·85	329	514	25·30	5·29
1928 (")	2·93	351	557	25·96	5·54
1929 (")	2·79	304	523	24·52	5·74

Railway Wages and Salaries.—The number of railway employees and the amount of their remuneration are naturally affected by the volume of traffic, which tends to rise in periods of active business conditions and fall in times of depression. The volume of traffic is also very directly affected by the size of the grain crops in the West. Thus it may be observed in Table **10** that the very favourable industrial and agricultural conditions of 1928 resulted in a considerable increase in the number of employees. The depression in 1929 resulted in a reduction in the pay roll chargeable to operating expenses of $3,765,820, although owing to heavy construction work the total pay roll increased by $2,957,184.

Largely because of inflated monetary conditions, the amount of salaries and wages reached a peak in 1920, but, as will be seen from Table **10,** the wage bill increased from 1915 to 1920 to a much greater extent than the number of employees, *viz.,* by 222 p.c., while employees increased by only 49 p.c. By a revision in 1926, the pay roll includes both operating and construction or capital accounts and consequently the data are not directly comparable with data for previous years.

10.—Number of Steam Railway Employees, Amount of Salaries and Wages, and Ratios of the latter to Gross Earnings and Operating Expenses, for years ended June 30, 1915-1919, and for calendar years, 1919-1929.

Year.	Employees.	Salaries and Wages.	Ratio to Gross Earnings.	Ratio to Operating Expenses.
	No.	$	p.c.	p.c.
1915 (June 30)	124,142	90,215,727	45·15	61·09
1916 (")	144,770	104,300,647	39·82	57·95
1917 (")	146,175	129,626,187	41·85	58·34
1918 (")	143,493	152,274,953	46·14	55·59
1919 (")	158,777	208,939,995	54·56	61·12
1919 (Dec. 31)	173,728	233,323,074	57·10	61·92
1920 (")	185,177	290,510,518	59·04	60·74
1921 (")	167,627	247,756,138	54·09	58·63
1922 (")	165,635	233,294,040	52·94	59·20
1923 (")	178,052	253,320,005	52·96	61·21
1924 (")	169,970	239,864,265	53·79	62·71
1925 (")	166,027	237,755,752	52·25	63·85
1926 (")	174,266[1]	253,412,424[1]	45·74[2]	57·97[2]
1927 (")	176,338[1]	267,037,048[1]	48·11[2]	58·90[2]
1928 (")	187,710[1]	287,775,316[1]	46·95[2]	59·79[2]
1929 (")	187,846[1]	290,732,500[1]	48·85[2]	60·24[2]

[1] Owing to changes in classification, the figures for 1926, 1927, 1928 and 1929 include 8,792, 8,360, 11,657 and 13,396 employees respectively, with salaries and wages of $9,075,602, $8,391,797, $13,218,742 and $15,096,199 respectively, engaged in outside operations and in classes not included prior to 1926. [2] The ratio percentages are for pay roll chargeable to operating expenses only.

Rolling Stock.—Statistics of the rolling stock of the steam railways of Canada are given for the last seven years in Table **11.** The figures may be supplemented by the statement that between 1920 and 1929 the average capacity of box cars increased from 34·779 tons to 37·711 tons, of flat cars from 33·459 to 37·020 tons, and of all freight cars from 35·141 tons to 38·162 tons. The average tractive power of the locomotive in use in 1920 was 31,112 lb. and in 1929, 36,228 lb.

11.—Rolling Stock of Steam Railways, calendar years 1923-1929.

Rolling Stock.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
	No.	No.	No.	No.	No.	No.	No.
Locomotives.							
Passenger	1,622	1,594	1,529	1,478	1,488	1,469	1,466
Freight	3,440	3,454	3,425	3,416	3,384	3,376	3,233
Switching	809	780	769	756	756	789	796
Electric	26	29	29	29	32	35	36
Totals	**5,897**	**5,857**	**5,752**	**5,679**	**5,660**	**5,669**	**5,531**
Passenger Cars.							
First class	1,968	1,981	1,960	1,968	1,968	1,978	1,999
Second class	429	419	426	409	406	400	386
Combination	424	426	430	398	545	546	512
Immigrant	704	703	704	668	668	738	730
Dining	194	196	198	198	207	204	218
Parlour	223	243	249	255	262	288	313
Sleeping	675	819	822	893	956	1,111	1,172
Baggage, express and postal	1,859	1,855	1,843	1,850	1,687	1,667	1,653
Motor cars	28	42	57	60	65	69	68
Other	281	165	150	149	158	183	199
Totals	**6,785**	**6,849**	**6,839**	**6,848**	**6,922**	**7,184**	**7,250**
Freight Cars.							
Box	159,276	155,656	154,527	150,499	151,232	148,717	151,565
Flat	23,321	22,748	22,308	21,631	21,018	20,335	19,601
Stock	12,204	12,335	12,025	11,746	11,656	11,312	10,408
Coal	22,854	23,486	23,445	23,663	23,551	23,278	22,676
Tank	438	453	466	456	462	466	495
Refrigerator	6,504	6,329	6,286	6,616	6,802	6,950	7,579
Other	5,017	5,156	5,170	6,644	6,062	5,970	5,432
Totals	**229,614**	**226,163**	**224,227**	**221,255**	**220,783**	**217,028**	**217,756**

Commodities Hauled.—In Table **12,** the duplications from two or more railways handling the same freight have been eliminated. The peak year was 1928 when agricultural products were particularly heavy. The 1929 statistics showed a decrease of 3,465,941 tons, or 2·9 p.c., wheat alone being lighter by 7,181,099 tons. The western wheat and oat crops were each less than half of the 1928 crops and other grains also showed large decreases. Forest products also decreased, but live stock remained about the same. Mine products increased by 10 p.c. and manufactures and miscellaneous freight increased by 6·8 p.c.

12.—Commodities Hauled as Freight on Steam Railways during the calendar years 1925-1929.

NOTE.—In this table duplications are eliminated, *i.e.*, the same freight handled by two or more railways is counted only once. In this respect these figures differ from those in the corresponding table in the 1926 and previous Year Books, and also from those of Table 6 in this chapter.

Group and Product.	1925.	1926.	1927.	1928.	1929.
	tons.	tons.	tons.	tons.	tons.
Agricultural Products—					
Wheat	11,544,921	11,866,705	12,295,949	17,997,862	10,816,763
Corn	605,108	683,330	751,924	858,760	846,488
Oats	1,797,319	1,533,970	1,170,675	1,548,811	1,347,478
Barley	1,090,653	1,089,949	994,794	1,463,535	1,048,602
Rye	213,526	239,520	531,681	453,093	288,606
Flax	208,809	170,445	134,303	133,133	77,928
Other grain	103,500	112,747	102,601	92,598	115,865
Flour	2,264,128	2,355,056	2,359,657	2,374,012	2,220,102
Other mill products	1,630,834	1,836,571	1,884,778	1,919,015	2,004,804
Hay and straw	781,700	953,387	689,722	563,301	535,239
Cotton	165,244	158,267	149,221	142,236	169,831
Apples (fresh)	281,817	296,829	244,000	282,432	285,088
Other fruit (fresh)	474,587	535,541	531,811	540,217	527,642
Potatoes	624,830	674,991	717,737	699,658	751,215
Other fresh vegetables	282,363	276,100	298,401	348,290	345,656
Other agricultural products	705,754	765,508	733,165	759,742	758,836
Totals, Agricultural Products	**22,775,093**	**23,548,916**	**23,590,419**	**30,176,695**	**22,140,143**
Animal Products—					
Horses	80,743	89,224	92,914	102,628	124,172
Cattle and calves	708,672	694,373	666,250	622,104	658,791
Sheep	62,139	64,850	70,330	64,334	76,320
Hogs	368,781	334,169	348,388	310,827	296,473
Dressed meats (fresh)	526,991	488,925	477,790	453,061	460,807
Dressed meats (cured or salted)	318,506	324,969	272,790	278,614	267,629
Other packing-house products	289,739	249,982	248,602	284,653	284,392
Poultry	79,114	93,257	93,780	101,701	109,121
Eggs	158,618	162,135	168,598	151,299	146,968
Butter and cheese	288,464	300,112	277,691	262,759	249,206
Wool	53,453	56,773	58,533	65,166	59,094
Hides and leather	173,523	171,191	185,265	168,635	154,433
Other animal products	106,307	101,955	104,625	107,890	111,292
Totals, Animal Products	**3,215,050**	**3,131,945**	**3,065,556**	**2,971,671**	**2,998,698**
Mineral Products—					
Anthracite coal	4,671,262	5,572,730	4,552,095	5,212,748	5,169,348
Bituminous coal	13,658,438	14,525,052	14,327,884	13,266,158	14,370,779
Lignite coal	360,077	2,746,285	2,958,916	3,214,005	3,145,782
Coke	1,231,360	1,412,647	1,230,318	1,549,428	1,719,081
Iron ore	443,316	587,337	512,578	608,692	688,384
Other ores and concentrates	2,400,002	3,249,471	3,278,901	3,752,965	4,702,860
Base bullion and matte	127,388	97,750	85,536	125,370	162,781
Clay, gravel, sand, stone (crushed)	5,129,861	6,454,541	7,193,841	7,836,974	9,072,573
Slate, dimension or block stone	363,009	358,945	346,519	390,665	401,540
Crude petroleum	431,955	597,774	641,644	806,202	939,509
Asphaltum	200,587	283,511	386,928	371,283	480,541
Salt	353,840	365,812	356,025	370,480	350,544
Other mineral products	659,047	494,185	541,542	983,167	1,069,232
Totals, Mineral Products	**30,030,142**	**36,746,040**	**36,412,727**	**38,488,137**	**42,272,954**
Forest Products—					
Logs, posts, poles, cordwood	2,943,927	3,506,801	3,696,800	4,042,410	4,162,238
Ties	159,971	170,038	179,351	204,546	199,227
Pulpwood	3,773,247	4,111,139	4,821,837	5,090,938	3,951,674
Lumber, timber, box shooks, heading	6,660,412	6,864,011	6,606,332	6,639,247	6,404,264
Other forest products	614,048	613,844	637,898	635,915	586,421
Totals, Forest Products	**14,151,605**	**15,265,833**	**15,942,218**	**16,613,056**	**15,303,824**

12.—Commodities Hauled as Freight on Steam Railways during the calendar years 1925-1929—concluded.

Group and Product.	1925.	1926.	1927.	1928.	1929.
	tons.	tons.	tons.	tons.	tons.
Manufactures and Miscellaneous—					
Refined petroleum and its products	1,820,215	1,976,456	2,183,613	2,637,478	3,088,483
Sugar	744,562	639,394	560,558	535,744	535,477
Iron—pig and bloom	350,595	401,859	371,436	446,625	492,659
Rails and fastenings	122,902	116,129	158,969	260,334	253,890
Bar and sheet iron—structural iron and iron pipe	1,333,646	1,560,885	1,487,998	1,938,795	2,416,028
Castings, machinery and boilers	566,155	663,753	661,030	668,974	713,526
Cement	1,101,135	1,160,063	1,333,256	1,493,173	1,711,985
Brick and artificial stone	867,373	935,649	956,660	1,008,582	1,051,484
Lime and plaster	446,771	412,529	441,908	475,577	489,503
Sewer pipe and drain tile	98,741	103,556	95,216	124,888	125,915
Agricultural implements and vehicles other than autos	330,609	423,709	490,147	552,456	485,721
Automobiles and auto-trucks	1,568,091	1,800,791	1,746,285	2,416,009	2,599,309
Household goods	80,818	81,012	75,684	75,037	62,921
Furniture	82,876	95,998	110,717	114,560	128,661
Liquor and beverages	253,399	268,700	294,337	355,973	343,017
Fertilizers, all kinds	338,762	332,614	445,355	577,125	568,069
Paper, printed matter, books	1,932,500	2,124,925	2,315,206	2,640,459	2,986,674
Wood-pulp	1,721,326	1,693,673	1,477,852	1,430,533	1,338,847
Fish (fresh, cured, etc.)	99,208	117,694	114,993	113,075	110,393
Canned meats	9,268	6,221	11,634	8,889	9,027
Canned goods (all canned food products other than meat)	376,023	390,162	385,202	426,906	452,118
Other manufactures and miscellaneous	6,179,743	6,800,087	6,749,899	7,453,684	8,058,484
Merchandise	3,975,275	4,423,313	4,532,480	4,648,534	4,449,218
Totals, Mfrs. and Misc	**24,399,993**	**26,529,172**	**27,000,435**	**30,403,410**	**32,471,409**
Grand Totals	**94,624,599**[1]	**105,221,906**	**106,011,355**	**118,652,969**	**115,187,028**

[1] Traffic on the Thousand Islands Ry., 52,716 tons in 1925, is not distributed, and is included as originating on Canadian National Railways.

Government Aid to Private Railways.—In order that the private railways of Canada might be constructed in advance of settlement as colonization roads, or through thinly settled districts where little traffic was available, it was necessary for Dominion, Provincial and even municipal Governments to extend some form of assistance. In our earlier history, when our Governments had plenty of Crown land and little cash, the subsidies granted to railways frequently took the form of land grants, which had the advantage of giving the railway a direct interest in opening up the country, though they sometimes led to the railways holding large tracts of land idle for speculative purposes when intermixed Crown lands had been homesteaded, thus retarding the settlement of agricultural land. Table **13** shows the areas of the land granted as subsidies to steam railway companies by the Dominion and Provincial Governments, with the names of the companies in the case of the Dominion Government. The total area so granted and for right of way purposes up to Dec. 31, 1929, amounted to 47,290,566 acres.

As the country grew wealthier, the objections to the land grant method became more apparent, and aid was more frequently given in the form of a cash subsidy per mile of line, a loan, or a subscription to the shares of the railway. From 1851 up to Dec. 31, 1929, as shown analytically in Table **14**, the total value of such aid granted to steam railways in Canada, exclusive of the capital of Government railways, amounted to $225,567,753. Of this sum, $176,693,510 represented aid granted by the Dominion Government, $33,460,615 that granted by the Provincial Governments, and $15,413,628 that granted by municipalities. Table **15** records the details of the most recent type of assistance given to private railways, *viz.*, by the guaranteeing of their bonds or of the interest thereupon.

These guarantees enabled the railways receiving them to borrow money at rates of interest considerably lower than would otherwise have had to be paid. The total amount outstanding on Dec. 31, 1929, was $703,844,823.

13.—Areas of Land Subsidies Granted to Steam Railways by the Dominion and Provincial Governments up to Dec. 31, 1929.

By the Dominion Government.	acres.
Alberta Railway and Coal Co.	1,101,712
Canadian Pacific Railway Co. (main line)	18,206,982
Calgary and Edmonton Railway Co.	1,820,071
Great North West Central Railway Co.	320,000
Manitoba Northwestern Railway Co.	1,501,376
Manitoba Southwestern Col. Railway Co.	1,396,800
Saskatchewan and Western Railway Co.	98,880
C.P.R.—Souris Branch	1,408,704
C.P.R.—Pipestone Extension, Souris Branch	200,320
Canadian Northern Railway Co.	3,422,528
Manitoba and Southeastern Railway Co.	680,320
Qu'Appelle, Long Lake and Saskatchewan Railroad and Steamboat Co.	1,624,154
Total by Dominion Government	**31,781,847**
By Provincial Governments.	
Nova Scotia	160,000
New Brunswick	1,788,392
Quebec[1]	2,085,710
Ontario	3,241,207
British Columbia[2]	8,233,410
Total by Provincial Governments	**15,508,719**
Total by Dominion and Provincial Governments	**47,290,566**

[1] Not including convertible land grants made by the Government of this province. [2] Includes 4,065,076 acres repurchased from B.C. Southern and Columbia and Western Railways.

14.—Analysis of the Total Financial Aid Given to Steam Railways up to Dec. 31, 1929.

By the Dominion Government.		By Provincial Governments.	
	$		$
Cash subsidies	118,600,799	Cash subsidies	33,160,615
		Subscription to shares	300,000
Loans	15,142,633	**Total by Provinces**	**33,460,615**
Paid to Quebec Government	5,160,053	By Municipalities.	
Cost of lines handed over to C.P.R.	37,790,025	Cash subsidies	12,988,128
		Subscriptions to shares	2,425,500
		Total by Municipalities	**15,413,628**
Total by Dominion	**176,693,510**	**Grand Total**	**225,567,753**

15.—Railway Bonds Guaranteed by Dominion and Provincial Governments, as at Dec. 31, 1929.

Government.	Outstanding Dec. 31, 1929.
	$
New Brunswick	917,000
Ontario	7,859,998
Manitoba	22,742,039
Saskatchewan	17,904,062
Alberta	18,394,428
British Columbia	45,186,001
Total by Provincial Governments	**113,003,528**
Dominion Government	590,841,295[1]
Grand Total	**703,844,823**

[1] Does not include $216,207,141 perpetual debenture stock and guaranteed stock of the Grand Trunk Railway, on which interest and dividends are guaranteed by the Dominion Government, nor guaranteed bonds held by the Government.

Railway Accidents.—The number of passengers, employees and others killed and injured in steam railway accidents is given in summary form from 1915 to 1929 in Table **16**, and in detailed analysis for 1927 to 1929 in Table **17**. Between 1915 and 1929 the number of persons killed in *train accidents* only, increased by 46, or 12·5 p.c., and the injured by 1,566, or 100 p.c., the increases at highway crossings, due largely to careless driving of motorists, being 62 killed and 344 injured. The number of persons injured in other accidents (trackmen, shopmen, etc.), increased from 1,583 in 1915 to 10,699 in 1929; the extent of the injuries, of course, cannot be compiled or compared, but it is probable that legislation in connection with workmen's compensation results in injuries to employees being much more completely reported now than formerly.

16.—Number of Passengers, Employees and Others Killed and Injured on Steam Railways, years ended June 30, 1915-1919, and calendar years 1919-1929.

Note.—For the years 1888 to 1914, see Canada Year Book, 1922-23, page 635.

Year.	Passengers.		Employees.		Others.		Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
1915	17	336	115	2,573	247	362	379	3,271
1916	20	309	174	4,332	274	337	468	4,978
1917	24	438	209	4,596	219	401	452	5,435
1918	32	344	178	5,352	200	393	410	6,089
1919	36	307	174	5,432	176	412	386	6,151
1919	34	392	197	6,349	209	476	440	7,217
1920	29	481	167	7,719	197	480	393	8,680
1921	5	259	156	6,583	193	394	354	7,236
1922	11	369	122	8,361	208	517	341	9,247
1923	15	437	167	9,382	165	539	347	10,358
1924	19	432	127	8,862	216	514	362	9,808
1925	5	401	105	8,256	199	642	309	9,299
1926	20	446	127	10,622	312	638	459	11,706
1927	14	569	131	11,057	256	695	401	12,321
1928	15	389	140	12,626	352	790	507	13,805
1929	20	551	118	12,483	293	809	431	13,843

17.—Number of Persons Killed and Injured on Steam Railways in the calendar years 1927-1929.

(A) In Accidents resulting from Movement of Trains, Locomotives or Cars.

Item.	1927.		1928.		1929.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Description of Persons—						
Passengers	14	438	15	326	20	406
Employees	106	1,915	114	2,214	104	2,028
Trespassers	138	164	156	181	148	177
Non-trespassers	109	392	191	512	139	497
Postal clerks, expressmen, etc	1	33	3	24	1	36
Totals	**368**	**2,942**	**479**	**3,257**	**412**	**3,144**
Description of Accident (Employees and Passengers only)—						
Coupling and uncoupling	9	139	5	151	2	165
Collisions	22	251	10	171	28	188
Derailments	14	149	13	195	17	268
Parting of trains	–	33	1	45	–	27
Locomotives or cars breaking down	–	16	1	8	1	19
Falling from trains or cars	20	295	25	274	23	288
Jumping on or off trains	9	331	17	409	11	360
Struck by trains, etc	40	131	44	121	37	157
Overhead obstruction	1	18	–	27	–	19
Other causes	5	990	13	1,139	5	943
Totals	**120**	**2,353**	**129**	**2,540**	**124**	**2,434**

17.—Number of Persons Killed and Injured on Steam Railways in the calendar years 1927-1929—concluded.

(B) In Accidents other than those resulting from Movement of Trains, Locomotives or Cars.

Description of Person.	1927.		1928.		1929.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Stationmen	–	697	–	872	1	875
Shopmen	8	3,166	6	3,472	5	3,529
Trainmen and trackmen	11	3,194	8	3,722	7	3,947
Other employees	6	2,085	12	2,346	1	2,104
Passengers	1	131	–	63	–	145
Others	8	106	2	73	5	99
Totals	**34**	**9,379**	**28**	**10,548**	**19**	**10,699**

Section 3.—Origin and Growth of Government-owned Railways.

Canadian Government Railways.—The Intercolonial Railway, built as a condition of Confederation and completed in 1876, and the Prince Edward Island Railway, opened in April, 1875, have since their construction been owned and operated by the Dominion Government. In 1903 the Dominion Government undertook the construction of the National Transcontinental Railway from Moncton, N.B., to Winnipeg, to be leased to the Grand Trunk Pacific Railway Company for a period of 50 years. However, as a result of the conditions arising from the outbreak of war, the company was unable to take over the operation of the road when completed in 1915. The Government itself undertook its operation and was also obliged to lease the Lake Superior branch of the Grand Trunk Pacific Railway, which was isolated from the main line. A number of eastern branch lines have been acquired in recent years, including: the New Brunswick and Prince Edward Island Railway which forms the mainland connection of the Prince Edward Island car ferry, the International Railway, the Moncton and Buctouche Railway, the Salisbury and Albert Railway, the St. Martin's Railway, the Elgin and Havelock Railway, the York and Carleton Railway, the Quebec and Saguenay Railway, the Caraquet and Gulf Shore Railway, the Lotbinière and Mégantic Railway and the Cape Breton Railway. The Saint John and Quebec and Inverness Railways which had been operated under lease were purchased in 1929, together with the Kent Northern, the Atlantic, Quebec and Western, the Quebec Oriental and the Quebec, Montreal and Southern. The Hudson Bay Railway, which had 332·5 miles of steel rail at the end of 1920, was declared to be comprised in the Canadian Government Railways, and until 1926 was operated to a limited extent by the board of directors of the Canadian National Railways. In that year, as a result of the decision to complete the road, it was returned to the Department of Railways and Canals until completed. The eastern terminus was transferred from Nelson to Churchill, and the line rehabilitated and extended through to Churchill. Construction of wharves and a grain elevator is not completed but it is expected that the railway will be opened to traffic in the autumn of 1931. To Mar. 31, 1930, the total cost of this railway was $29,527,026 and of terminal work at Churchill $4,707,563, exclusive of the expenditures of $6,274,217 on the terminal at Nelson, some of which was salvaged.[1]

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[1] These figures of total cost include deficits during operations and expenditures which formed part of cash loans to the Canadian National Railways and amounts chargeable to appropriations under collection of revenue in the case of the terminals, in addition to the expenditures by the Government on capital account as shown in Table 19.

Tables **18** and **19**, from the Annual Report of the Department of Railways and Canals, show the capital expenditure of the Dominion Government on the Canadian Government Railways and their operating finances to Mar. 31, 1930. In Table **18** the cost of the Quebec Bridge ($21,706,664) also $18,000 of miscellaneous expenditure, are not included in the total of capital expenditure, while in Table **19** they are included.

18.—Cost of Construction, Operating Expenses and Revenue of Canadian Government Railways before Confederation and for the fiscal years 1868-1900 and 1901-1930.

NOTE. -From the Annual Report of the Department of Railways and Canals. For the years 1868 to 1915, see Canada Year Book, 1916-17, p. 437.

Fiscal Year.	Capital Expenditure.	Operating Expenses.	Revenue.	Operating Surplus (+) or Deficit (−).
	$	$	$	$
Before Confederation	13,881,461	–	–	–
1868-1900	114,091,108	81,391,472	73,226,382	− 8,165,000
1901-1915	217,779,966	136,904,921	133,201,248	− 3,703,673
1916	21,153,255	19,407,380	18,427,909	− 979,471
1917	12,003,650	25,795,907	23,539,759	− 2,256,148
1918	34,699,417	33,400,460	27,240,957	− 6,159,503
1919	40,193,181	43,889,626	38,013,726	− 5,875,900
1920	11,593,148	48,194,710	41,402,061	− 6,792,649
1921	5,096,535	43,770,971	36,814,350	− 6,956,621
1922	4,553,638	6,326,800	[2]	− 6,326,800
1923	Cr. 1,052,293	5,695,669	[2]	− 5,695,669
1924	315,944	–	–	–
1925	Cr. 37,499	–	–	–
1926	Cr. 40,580	20,587[3]	–	− 20,587
1927	2,828,344	13,832[3]	–	− 13,832
1928	3,626,946	–	–	–
1929	Cr. 7,137,151	–	–	–
1930	6,404,790	–	–	–
Totals	**479,953,860**[1]	**444,812,335**	**391,866,392**	**−52,945,943**

[1] Less $40,000 received from Saint John city for the Carleton Branch Railway, plus cost of Quebec bridge to Mar. 31, 1930, *viz.* $21,706,664 and miscellaneous expenditures in 1914 of $18,000=$501,638,525.

[2] Revenue applied against operating expenses.

[3] Expenditure on Port Nelson terminals.

19.—Capital Expenditure on Government Railways to Mar. 31, 1930.

(From the Annual Report of the Department of Railways and Canals.)

Railway.	Expenditure, Previous Years.	Expenditure, Fiscal Year 1930.	Total Expenditure.
Canadian Government Railways—			
Intercolonial Railway System—	$	$	$
Canada Eastern Railway	819,000	–	819,000
Cape Breton Railway	3,860,679	–	3,860,679
Drummond County Railway	1,464,000	–	1,464,000
Eastern Extension Railway	1,324,043	–	1,324,043
Montreal and European Railway	333,943	–	333,943
Oxford and New Glasgow Railway	1,949,063	–	1,949,063
Intercolonial Railway	123,351,143	Cr. 76,030	123,275,113
Totals, Intercolonial Railway System	133,101,871	Cr. 76,030	133,025,841
New Brunswick and Prince Edward Island Railway	925,267	–	925,267
Prince Edward Island Railway	13,449,537	84,243	13,533,780
International Railway of New Brunswick	2,963,022	–	2,963,022
National Transcontinental Railway	169,309,558	Cr. 250	169,309,308
Moncton and Buctouche Railway	293,068	–	293,068
Salisbury and Albert Railway	437,648	–	437,648

19.—Capital Expenditure on Government Railways to Mar. 31, 1930—concluded.

Railway.	Expenditure, Previous Years.	Expenditure, Fiscal Year 1929.	Total Expenditure.
Canadian Government Railways—concluded.	$	$	$
St. Martin's Railway	302,046	–	302,046
Elgin and Havelock Railway	135,029	–	135,029
York and Carleton Railway	59,749	–	59,749
Quebec and Saguenay Railway	7,772,911	–	7,772,911
Caraquet and Gulf Shore Railway	711,768	–	711,768
Lotbinière and Mégantic Railway	360,008	–	360,008
Cape Breton Railway Extension	107,647	–	107,647
Canadian Government Railways (rolling stock)	35,906,042	–	35,906,042
Canadian Government Railways (miscellaneous)	345	–	345
Quebec Bridge	21,706,664	–	21,706,664
Miscellaneous suspense	3,862	–	3,862
Totals, Canadian Government Railways	387,546,042	7,963	387,554,005
Other Railways and Miscellaneous—			
Canadian Northern Railway	10,000,000	–	10,000,000
Annapolis and Digby Railway	660,683	–	660,683
European and North American Railway	88,363	–	88,363
Nova Scotia Railway	208,510	–	208,510
Carleton Branch Railway	48,410	–	48,410
Canadian Pacific Railway	62,791,435	–	62,791,435
Hudson Bay Railway	23,359,202	5,357,693	28,716,895
Hudson Bay Railway—Nelson and Churchill terminals	9,908,227	1,039,134	10,947,361
Yukon Territory Works, Stikine-Teslin Railway	283,324	–	283,324
North Railway	250,000	–	250,000
Governor General's Cars	71,539	–	71,539
Miscellaneous expenditure	18,000	–	18,000
Grand Totals, Capital Expenditure	**495,233,735**	**6,404,790**	**501,638,525**

The Consolidation and Organization of the Canadian National System.[1]—In pursuance of an Act of 1917 (7-8 Geo. V, c. 24), the Government acquired the capital stock of the Canadian Northern Railways with a mileage of 9,566·5. The insolvency of the Grand Trunk Pacific led to the appointment of the Minister of Railways as receiver on Mar. 9, 1919, and in Oct., 1920, the road was transferred to the Canadian National Railways. The Grand Trunk Railway was acquired under c. 13 of the 2nd session of 1919, which provided for arbitration as to the considerations to be given to its shareholders. This arbitration finally disposed of, steps were taken to consolidate the various railways under government operation and control. In Oct., 1922, the Grand Trunk Board and the Canadian Northern Board gave place to a single Canadian National Board, to which the former Canadian Government Railways were turned over for management and operation. The unification of the Grand Trunk and Canadian National Railways was provided for by Order in Council of Jan. 30, 1923, which also brought into effect the Act to incorporate the Canadian National Railway Company and respecting Canadian National Railways (c. 13, 1919). This was followed, on Feb. 5, 1923, by an Order in Council establishing the head office of the Canadian National Railways at Montreal, Que.

Operation of the Canadian National Railways.—The Canadian National system's steam mileage at Dec. 31, 1929, including lines in the United States but exclusive of the Central Vermont (which the Canadian National system purchased) and the Northern Alberta (which is controlled jointly by the Canadian

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[1] For further details on the acquisition of the Canadian Northern, Grand Trunk Pacific and Grand Trunk Railways by the Dominion Government, see pp. 602-603 of the 1926 Year Book.

National and the Canadian Pacific Railways) was 19,571·36, which with the Eastern Lines' mileage of 3,332·54 made a total of 22,903·90. Including the Central Vermont, 420·76, and the Thousand Islands Railway, 4·6, controlled by constituent companies but separately operated, the total steam mileage was 23,329·26. Including 186·52 miles of electric lines, the grand total was 23,515·78.

The Maritime Freight Rates Act (17 Geo. V, c. 44), effective July 1, 1927, ordered that the accounts of the Canadian National lines east of Lévis and Diamond Junction, Quebec, be kept separate from those of the remainder of the Canadian National system. These lines were designated the "Eastern Lines" of the Canadian National Railway, and the territory, which included Prince Edward Island, Nova Scotia, New Brunswick and a part of Quebec, the "select territory". The Act also ordered that local and westbound freight rates on the Eastern Lines and freight rates on all eastbound traffic originating on these lines be reduced by 20 p.c. The reductions applied only to rates on the Eastern Lines and not to railways beyond the "select territory". Other railways operating in the "select territory" were allowed to make similar reductions in their freight rates in that territory and to bill on the Board of Railway Commissioners of Canada for the difference in freight receipts due to such reductions. The railways making such reductions included these bills with their revenues and consequently their revenues were not reduced by the change in the rates. The Act provides that any deficit from the operation of these lines shall be met by a separate appropriation by the Dominion Government. For the six months, July-December, 1927, and the calendar years 1928 and 1929, the Eastern Lines reported losses in revenues due to these reductions in rates of $931,810, $2,151,528 and $2,451,818 respectively, and the deficit was therefore increased by those amounts. The total paid to privately owned railways under the Act was $421,655 for the six months of 1927, $828,893 for 1928 and $811,149 for 1929. The four operating regions of the Canadian National Railways system were somewhat altered in consequence of the Maritime Freight Rates Act and are now divided as follows:—the Eastern Lines, including far the greater part of the former Atlantic region and the lines west to Lévis and Diamond Junction, a total of 3,332·54 miles; the Central Region, from Lévis and Diamond Junction west to Port Arthur and Armstrong, including the line in the United States to Portland, Maine, a total of 7,631·31 miles; the Western Region, including all lines west of Port Arthur and Armstrong, with the Duluth, Winnipeg and Pacific, a total of 10,948·27 miles; and the Grand Trunk Western, the lines in the States of Michigan, Indiana and Illinois, 991·78 miles.

The Quebec bridge across the St. Lawrence above Quebec city, with a main span of 1,800 ft., the longest in the world, and carrying a single track railway and accommodation for motor and pedestrian traffic, forms a connecting link in the Canadian National Railways system and is operated as a part of it.

Table **20** shows some of the more important train traffic statistics of Canadian National Railways operation for the years 1928 and 1929 (excluding the Eastern Lines and the Central Vermont Railway included in the similar table on pp. 663-4 of the 1927-28 Year Book).

20.—Canadian National Railways (Canadian and U.S. Lines) Train Traffic Statistics, for the calendar years 1928 and 1929.[2]

Item.	1928.[1]	1929.[1]
Train Mileage—		
Passenger trains	21,689,697	21,763,162
Freight trains	32,201,199	28,884,892
Mixed trains	2,697,291	2,693,246
Special trains	30,722	33,514
Unit cars	837,542	833,277
Totals, Train Miles[3]	57,456,451	54,208,091
Car Mileage—		
Passenger—		
Coaches, parlour, sleeping and dining cars	111,990,130	110,384,481
Baggage, mail, express, etc	53,117,107	53,756,096
Totals, Passenger Train Car Miles[3]	165,107,237	164,140,577
Freight—		
Loaded freight car miles	903,785,397	821,165,756
Empty freight car miles	464,041,644	376,914,538
Caboose miles	34,741,195	31,055,663
Totals, Freight Train Car Miles[3]	1,402,568,236	1,229,135,957
Passenger Traffic -		
Passengers carried (earning revenue)	16,197,108	15,586,580
Passengers carried (earning revenue) one mile	1,294,234,945	1,175,621,114
Passenger train miles per mile of road	1,175	1,161
Average passenger journey —miles	79·91	75·43
Average amount received per passenger $	2·111	2·054
Average amount received per passenger mile $	0·0264	0·0272
Average number of passengers per train mile	56·26	50·90
Average number of passengers per car mile	12·32	11·43
Revenue from passengers per passenger car mile $	0·3255	0·3113
Total passenger train earnings per train mile $	2·33	2·23
Total passenger revenue per mile of road $	2,796·63	2,651·57
Freight Traffic—		
Tons of revenue freight carried	65,512,418	61,254,878
Tons of revenue freight carried one mile	20,653,705,792	17,355,709,696
Tons of non-revenue freight carried one mile	2,411,084,720	2,441,616,382
Total tons (all classes) freight carried one mile	23,064,790,512	19,797,326,078
Tons of revenue freight carried one mile per mile of road	1,071,547	886,148
Total tons (all classes) freight carried one mile per mile of road	1,197,325	1,011,588
Average number of tons revenue freight per train mile	596·72	554·96
Average number of tons (all classes) freight per train mile	666·77	633·52
Average number of tons (all classes) freight per loaded car mile	25·40	23·99
Average haul revenue freight—miles	315·26	283·34
Freight revenue per loaded car mile $	0·23180	0·23592
Freight revenue per train mile $	6·08	6·23
Freight revenue per mile of road $	10,925·77	9,949·15
Freight revenue per ton $	3·19695	3·16144
Freight revenue per ton mile $	0·01014	0·01116

[1] Excludes Eastern Lines, Central Vermont Railway and electric lines.

[2] For detailed statistics of the operation and finances of the Canadian National Railways during 1929 see the annual report of the Department of Railways and Canals for the fiscal year ended Mar. 31, 1930, and Steam Railway Statistics, 1929, published by the Dominion Bureau of Statistics.

[3] Work service excluded.

Operating Finances of the Canadian National Railways.—In Table 21 "Canadian Lines" include those of the Canadian Northern system, the Grand Trunk Railway of Canada, the Grand Trunk Pacific and the Canadian Government Railways, and the Hudson Bay Railway for 1920 to 1925, but not since 1925. The "United States Lines" include those lines known as the New England line, the Grand Trunk Western, and the Duluth, Winnipeg and Pacific. The Hudson Bay Railway was returned to the Government while under construction, and appropriations, etc., for this were not included with the 1926 data. The Maritime Freight Rates Act necessitated the segregation of the Eastern Lines which have been kept separate since July 1, 1927.

Gross revenues, operating expenses and net revenues shown in this table include only those from steam railway operations, with the exception that commercial telegraph operations are included in the figures for 1927, 1928 and 1929, but the deficits are for the entire system, including the operating results of the

Niagara, St. Catharines and Toronto Railway (electric) and other railways operated separately, hotels, commercial telegraphs, coastal steamships and all other outside operations.

Up to 1928 there was a marked improvement over the results of the first year after consolidation (1923), when the deficit was $51,697,675, but the light traffic in 1929 so reduced gross revenues that, with increased interest charges and only a slight reduction in operating expenses, the deficit increased from $29,868,437 in 1928 to $46,099,250. During 1926-1928, 40 to 45 p.c. of the net revenues was earned in the last three months of each year and only 25 p.c. of operating expenses was expended, but in 1929, owing to the exceedingly heavy decrease in traffic, only 30 p.c. of net revenues was earned during October, November and December and heavy maintenance and other expenses had already been incurred. The Central Vermont, which was previously included in this table, suffered severe damages from floods during 1927 and was forced into receivership on Dec. 13, 1927; consequently its accounts were not included with those of the Canadian National system. In 1930 the road was sold at public auction and purchased by the Canadian National Railways; from Feb. 1, 1930, the accounts have been included with those of the other constituent lines in the United States (25·3 miles of the Central Vermont are in Canada).

21.—Gross Revenues, Operating Expenses, Net Revenues, Interest on Funded Debt and Annual Deficit of the Canadian National Railways, for the calendar years 1925-1929.[1]

Item.	1925.	1926.	1927[2].	1928.	1929.
	$	$	$	$	$
Gross Railway Operating Revenues—					
Canadian Lines	208,218,921	225,547,852	207,573,007	232,459,577	217,604,469
United States Lines	36,752,282	40,639,974	41,143,367	44,172,344	42,274,504
Totals, Can. and U.S. Lines	244,971,203	266,187,826	248,716,374	276,631,921	259,878,973
Eastern Lines	–	–	26,162,744[3]	27,959,347[3]	30,618,007[3]
Totals, All Lines	244,971,203	266,187,826	274,879,118	304,591,268	290,496,980
Railway Operating Expenses—					
Canadian Lines	184,373,201	190,173,271	172,786,790	186,296,821	183,408,505
United States Lines	28,333,587	29,531,362	30,528,894	31,951,522	31,408,388
Totals, Can. and U.S. Lines	212,706,788	219,704,633	203,315,684	218,248,343	214,816,893
Eastern Lines	–	–	29,989,583	31,483,352	33,815,382
Totals, All Lines	212,706,788	219,704,633	233,305,267	249,731,695	248,632,275
Net Operating Revenues—					
Canadian Lines	23,845,720	35,374,581	34,786,217	46,162,756	34,195,964
United States Lines	8,418,695	11,108,612	10,614,473	12,220,822	10,866,116
Totals, Can. and U.S. Lines	32,264,415	46,483,193	45,400,690	58,383,578	45,062,080
Eastern Lines	–	–	−3,826,839	−3,524,005	−3,197,375
Totals, All Lines	32,264,415	46,483,193	41,573,851	54,859,573	41,864,705
Interest—					
Canadian National—On Funded Debt	71,888,617	71,287,687	72,262,418	73,537,537	77,323,052
Eastern Lines—On Funded Debt	–	–	768,912	780,680	871,473
Totals, All Lines	71,888,617	71,287,687	73,031,330	74,318,217	78,194,525
Deficit—					
Canadian National	41,444,764	29,701,445	31,576,194	24,730,410	40,933,994
Eastern Lines	–	–	5,129,718[4]	5,138,027[4]	5,165,256[4]
Totals, All Lines	41,444,764	29,701,445	36,705,912	29,868,437	46,099,250

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[1] Exclusive of Hudson Bay Railway in 1926, 1927, 1928 and 1929; this line was included in previous years.

[2] Adjusted to show data of Eastern Lines for twelve months, also to include revenues and expenses of commercial telegraph.

[3] Includes contributions from Dominion Government to cover loss from 20 p.c. reduction in certain rates ordered by the Maritime Freight Rates Act, July 1, 1927; $931,810 for 6 months 1927, $2,151,528 for 12 months 1928, and $2,451,818 including $13,743 for Gaspé railways for 1929.

[4] Appropriations by Dominion Government to meet deficits of Eastern Lines including loss due to reduction in freight rates amounted to—$3,049,746 in cash, $214,949 in accounts, total $3,264,695 for 6 months 1927; $6,351,884 in cash, $937,671 in accounts, total $7,289,555 for 1928; and $7,214,035 in cash, $389,296 in accounts, total $7,603,331 for 1929.

The Debt and Interest Charges of the Canadian National Railways.— The two tables which follow analyse the increase in the debt and interest charges of the system, including both Canadian and United States lines. The first table (**22**) shows to whom the liabilities which have accumulated up to 1929 are payable and the second (**23**) the purposes for which the funds representing the annual increases in liabilities were used. To define clearly what is included under debt due to the Dominion Government in Table **22**, the appropriations for the Canadian Government Railways have been separated from the loans and advances to the remainder of the system. The Canadian Government Railways include the Intercolonial, National Transcontinental, Prince Edward Island and several other smaller railways in the Eastern Provinces, together with the Quebec Bridge. The Hudson Bay Railway was included in the Canadian Government Railways until 1926, when it was transferred back to the Department of Railways and Canals for completion, while appropriations on its account were deducted. These Canadian Government Railways appropriations do not include the operating deficits of the Canadian Government Railways for 1919 and 1920 nor the deficits of the Eastern Lines since July 1, 1927, but include investments for construction, purchase and working capital of the Canadian Government Railways and the operating deficits of these railways since their consolidation with the system in 1921, except as already mentioned. As the book value of these properties is included on the asset side of the balance sheet, the cost of these roads to the Dominion is included in the liabilities of the system as an offset. The construction or purchase of these roads was financed by the Dominion from the Consolidated Revenue Fund, and while for book-keeping purposes their cost is set up as a system liability, they are not a debt and carry no interest obligation.

In a rather different class are the loans and advances made by the Government to the Canadian National Railways or constituent companies on notes, bonds and receiver certificates with accrued simple interest ranging from 3 to 6 p.c. In computing the public debt of Canada the Finance Department considers these railway loans and advances as "non-active assets" similar to investments in canals, public works, etc., and as such does not subtract them from the gross debt in computing the net debt; similarly, no interest is charged by the Finance Department on the railway advances. The railways, however, debit their accounts with the accrued interest on these Government advances, although none of this interest has been paid.

The debt due to the public includes debenture stock maturing and perpetual, and bonds and mortgages of the constituent railways, but does not include the capital stock of the Grand Trunk Railway held by the Government, nor the cost of acquiring the same. Likewise it does not include the capital stock of the Canadian Northern system. The stock of the Grand Trunk Pacific is all held by the Canadian National system and is therefore not included either.

Table **22** shows the total debt at the end of 1929 to have been $2,431,244,155, made up of $1,122,559,493 owing to the public and $1,308,684,662 to the Government. In addition to the actual loans and advances by the Government amounting to $601,446,082, this sum of $1,308,684,662 includes, not only the unpaid interest, already referred to, of $290,088,439, but $417,150,141 spent on the construction and purchase of lines forming the original Canadian Government Railways. The aggregate net increase in the principal of the debt during the 11 years as shown in Table **22** was $1,050,037,910, of which $349,595,527 was an increase in debt due to the public and $700,442,383 in debt due to the Government.

In Table **23** is presented an analysis of the increase in capital liability in the years 1923 to 1929, according to the purpose for which the money was used. The accounts for the Eastern Lines, which under the Maritime Freight Rates Act were ordered segregated from those of the remainder of the system, are shown separately since July 1, 1927. In the first column is shown the interest accrued each year, including interest due to the public and to the Dominion Government. In the second column is shown the total increase in book long term debt as set up by the railway. It is stated in these terms because it contains accrued interest on Government loans which is not included in the debt by the Minister of Finance. Columns 3 and 5 show the division of the total increase shown in column 2 together with profit and loss adjustments, such as from sales of property, etc. The totals for 1924-1929 are shown for the purpose of comparison with Table **24.** Of the total increase of $638,718,402 in the seven years the system had been under one management, $277,741,734 was due to operating deficits and $360,088,799 was expended on additions and betterments, increased working capital, etc. To explain this last item Table **24** has been compiled. It shows a net increase in assets for the six years, 1923-1929, of $310,019,869. Of course, some of this is offset by increased current liabilities, but the investments show an increase of $269,239,904 as against the net increase of $270,267,561 shown in column 5, Table **23.**

The figures in Tables **22** and **23** do not include any Central Vermont data. Loans and advances received by the Canadian National Railways from the Dominion Government and advanced by the Canadian National to the Central Vermont are shown as charges against the Canadian National Railways.

22.—Debt and Interest Charges of Canadian National Railways (including appropriations for Canadian Government Railways), Calendar Years 1919-1929.

PRINCIPAL AND UNPAID ACCRUED INTEREST.[1]

Calendar Year.	Amount Outstanding Dec. 31.					Total Increase during Year.
	Due to Dominion Government.			Due to Public.	Total.	
	Appropriations for Can. Govt. Railways.	Loans and Advances with Accrued Interest.	Total.			
	$	$	$	$	$	$
1919	407,254,699	274,969,881	682,224,580	801,131,444	1,483,356,024	102,149,779
1920	411,704,909	396,744,482	808,449,391	820,550,681	1,629,000,072	145,644,048
1921	416,295,596	514,796,282	931,091,878	830,829,449	1,761,921,327	132,921,255
1922	415,118,319	601,627,683	1,016,746,002	804,503,144	1,821,249,146	59,327,819
1923	447,643,526[2]	666,539,750	1,114,183,276	823,099,056	1,937,282,332	116,033,186
1924	451,712,485	690,555,950	1,142,268,435	913,913,083	2,056,181,518	118,899,186
1925	453,935,303	734,547,038	1,188,482,341	931,329,303	2,119,811,644	63,630,126
1926	437,412,032[3]	788,251,724	1,225,663,756	925,480,244	2,151,144,000	31,332,356
1927	436,416,287[4]	821,680,355[5]	1,258,096,742	981,381,736	2,239,478,478	88,334,478
1928	417,279,954[6]	872,936,528[5]	1,290,216,482	977,889,033	2,268,105,515	28,627,037
1929	417,150,141	891,534,521[5]	1,308,684,662	1,122,559,493	2,431,244,155	163,138,640

INTEREST.

Calendar Year.	Accrued during Year.			Increase during Year.		
	Due to Dominion Govt.	Due to Public.	Total.	Due to Dominion Govt.	Due to Public.	Total.
	$	$	$	$	$	$
1919	9,596,581	28,599,687	38,196,268	3,517,851	669,715	4,187,566
1920	14,346,832	31,055,318	45,402,150	4,750,251	2,455,631	7,205,882
1921	20,963,782	34,476,014	55,442,796	6,619,950	3,420,696	10,040,646
1922	24,912,876	34,652,324	59,565,200	3,946,094	176,310	4,122,404
1923	30,157,944	35,041,380	65,199,324	5,245,068	389,056	5,634,124
1924	31,271,043	38,361,704	69,632,747	1,113,099	3,320,324	4,433,423
1925	31,450,382	40,438,235	71,888,617	179,339	2,076,531	2,255,870
1926	32,090,454	39,197,233	71,287,687	640,072	−1,241,002[7]	−600,930
1927	32,505,234	40,526,096	73,031,330[8]	414,780	1,328,863	1,743,643
1928	32,507,337	41,810,880	74,318,217[8]	2,103	1,284,784	1,286,887
1929	32,690,545	45,503,980	78,194,525[8]	183,208	3,693,100	3,876,308

[1] Includes debenture stock of Canadian Northern system, Grand Trunk and Grand Trunk Pacific and cost of constructing Canadian Government Railways, but excludes capital stock, which on Dec. 31, 1929, amounted to $270,223,249, of which $265,628,339 was owned by the Dominion Government and $4,594,910 was held by others. Does not include appropriations for deficits of Canadian Government Railways for 1919 and 1920 nor of the Eastern Lines since July 1, 1927.

[2] Includes operating deficits 1921-1922-1923 and working capital of Canadian Government Railways.

[3] Reduced on account of the Hudson Bay Railway being returned to Canadian Government while under construction, and by repayments to Dominion Government, account of Canadian Government Railways.

[4] Reduction due to revision of appropriations.

[5] Accrued interest included on Dec. 31, 1928, was $258,024,307 and on Dec. 31, 1929, $290,088,439.

[6] Reduction due to transfer of Canadian Government Railways property to Harbour Commissions of Halifax ($12,830,122) and Saint John ($647,383), and adjustments of Canadian National cash loans of $5,947,732 and additions amounting to $288,804.

[7] Interest on 4 p.c. Grand Trunk Pacific debentures reduced by $1,046,378, under agreement with bondholders.

[8] Includes interest on debt of Eastern Lines, *viz.*, $392,407 for 1927 and $780,680 for 1928 and $871,473 for 1929.

23.—Analysis of the Increase in the Debt of the Canadian National Railways, calendar years, 1923-1929.[1]

For the years 1919-1922 see Canada Year Book 1930, p. 642.

Calendar Year.	Interest on Funded Debt.	Total.	Increase in Book Long Term Debt.		
			Distribution.		
			Income Deficits.	Profit and Loss Adjustments.	Additions and Betterments; Discount on Debt; Increased Working Capital, etc.
	$	$	$	$	$
1923	65,199,324	116,033,186	51,697,675	Dr. 2,936,648	61,398,863
1924	69,632,747	118,899,186	51,860,419	Cr. 385,872	64,424,639
1925	71,888,617	63,630,126	41,444,764	Dr. 206,505	21,978,857
1926	71,287,687	46,578,245	29,701,445	Cr. 6,214,688	23,091,488
1927	72,636,923	88,334,478	34,373,027	Dr. 628,150	53,333,301
1928	73,537,537	42,104,541	24,730,410	Dr. 3,601,070	13,773,061
1929	77,323,052	163,138,640	40,933,994	Dr. 116,056	122,088,590
Totals	501,505,887	638,718,402	277,741,734	Dr. 887,869	360,088,799
Less ledger value of Canadian Government Railways property transferred from Canadian National Railways system 1926	–	15,245,889	–	–	15,245,889
1928	–	13,477,505	–	–	13,477,505
Net Increases	–	609,995,008	277,741,734	Dr. 887,869	331,365,405
Totals (1924-1929)	436,306,563	522,685,216	226,044,059	Cr. 2,048,779	298,689,936
Net increases (1924-1929)	–	494,262,841	226,044,059	Cr. 2,048,779	270,267,561
Eastern Lines—					
1927 (6 months)	392,407[2]	2,525,723[2]	2,332,885[3]	Dr. 192,838	–
1928	780,680[2]	4,983,349[2]	5,138,027[3]	Cr. 154,678	–
1929	871,473[2]	5,560,268[2]	5,165,256[3]	Dr. 395,012	–
Totals, Eastern Lines	2,044,560	13,069,340	12,636,168	Dr. 433,172	–

[1] In computing the public debt of Canada, the Finance Department considers railway appropriations and advances in the same way as investments in canals, public works, etc., *i.e.*, as "non-active assets" and does not subtract them from the gross debt in computing the net debt; similarly, no interest is charged by the Finance Department. The railways, however, debit their accounts with the accrued interest on Government advances although none of this interest has been paid.

[2] Not assumed by Canadian National Railways system.

[3] Deficits of Eastern Lines are met by appropriations by Dominion Government. These deficits do not include loss in revenues due to the 20 p.c. reductions in freight rates, *viz.*, $931,810 for six months 1927, $2,151,528 for 1928, and $2,451,818 for 1929 including $13,743 for Gaspé railways, also paid by the Dominion Government.

Assets of Canadian National Railways.—No consolidated balance sheet was issued for 1922 and, consequently, it is not possible to show the changes during the 7 years the system has been under the unified management. Table **24**, however, shows the asset side of the balance sheets for 1923 and 1929 and the increases and decreases during this six-year period.

The gross increase in investment in road and equipment of $255,912,681 is included in the total of $298,689,936 for additions and betterments, discounts, etc., for 1924-1929, shown in Table **23**, and during this period the increase in miles of road owned was 1,891·87, (Hudson Bay Railway excluded in both capital and mileage). In the investment accounts some of the increases were due to transfers from one account to another. Some of the leased properties now controlled by the system were transferred to account 701 and hotels were transferred from account 701 to account 705. Much of the increase in account 706, "Investments in affiliated companies" was due to advances to the Central Vermont Railway. Also, against the special deposit with the Minister of Finance of $39,847,699, were temporary loans of $32,601,600 not included as long term debt shown in Tables **22** and **23.**

24.—Assets of the Canadian National Railways System, Dec. 31, 1923 and 1929.

Account No.	Account.	Dec. 31, 1923.	Dec. 31, 1929.	Increase (+) or Decrease (−).
	INVESTMENTS—	$	$	$
701	Investment in road and equipment	1,810,908,126	2,038,398,433	+ 227,490,307[1]
702	Improvements on leased railway property	4,625,329	2,707,483	− 1,917,846
703	Sinking funds	11,637,252	17,061,995	+ 5,424,743
704	Deposits in lieu of mortgaged property sold	391,730	5,073,405	+ 4,681,675
705	Miscellaneous physical property	38,692,890	53,816,942	+ 15,124,052
706	Investments in affiliated companies	28,397,922	46,241,160	+ 17,843,238
707	Other investments	4,754,338	5,348,073	+ 593,735
	Totals	**1,899,407,587**	**2,168,647,491**	+ **269,239,904**
	CURRENT ASSETS—			
708	Cash	20,498,997	18,233,300	− 2,265,697
711	Special deposits	7,860,845	7,833,251	− 27,594
	Special deposits, Minister of Finance	–	39,847,699	+ 39,847,699
712	Loans and bills receivable	44,868	–	− 44,868
713	Traffic and car service balances receivable	2,974,797	1,574,980	− 1,399,816
714	Net balances receivable from agents and conductors	5,575,839	6,211,400	+ 635,561
715	Miscellaneous accounts receivable	11,339,706	10,051,758	− 1,287,948
	Dominion Government, operating deficit on Eastern Lines	–	883,643	+ 883,643
716	Materials and supplies	53,772,174	42,582,882	− 11,189,292
717	Interest and dividends receivable	409,185	1,230,074	+ 820,889
718	Rents receivable	288,448	130,670	− 157,779
719	Other current assets	87,102	771,693	+ 684,591
	Totals	**102,851,961**	**129,351,350**	+ **26,499,389**
	DEFERRED ASSETS—			
720	Working fund advances	478,346	336,967	− 141,379
721	Insurance and other funds	5,708,442	10,480,455	+ 4,772,013
722	Other deferred assets	6,497,045	9,725,567	+ 3,228,522
	Totals	**12,683,833**	**20,542,989**	+ **7,859,156**
	UNADJUSTED DEBITS—			
723	Rents and insurance premiums paid in advance	50,851	287,059	+ 236,208
724	Discount on capital stock	193,500	189,710	+ 3,790
725	Discount on funded debt	2,272,093	11,087,025	+ 8,814,932
727	Other unadjusted debits	6,399,226	3,773,295	− 2,625,930
	Totals	**8,915,670**	**15,337,089**	+ **6,421,420**
	Grand Totals	**2,023,859,050**	**2,333,878,919**	+ **310,019,869**

[1] In 1926 the Hudson Bay Railway, with a ledger value of $14,944,870, was transferred to the Department of Railways and Canals and in 1928 Canadian Government Railways property, with a ledger value of $13,477,505, was transferred to the Halifax and Saint John Harbour Commissions; consequently the gross increase was $28,422,375 greater, or $255,912,681.

PART III.—ELECTRIC RAILWAYS.[1]

The cheap and reasonably rapid conveyance of human beings is a necessity of modern urban life and is supplied throughout Canada by the electric street railway, generally operated by hydro-electric energy which is so important a feature of Canadian economic life.

Historical.—Replacing the horse car systems, used in Montreal and Toronto as early as 1861, electric street railways were first seen in operation in Canada in 1885, when a successful experimental railway was constructed and operated at the Toronto Exhibition grounds. Before many years their safety and convenience resulted in the discarding of the older system. An electric system 7 miles in length was opened at St. Catharines in 1887, using the double overhead trolley. This was followed by the completion of the Ottawa Electric Railway in 1891, and the electrification of the Montreal and Toronto systems in 1892. The street railways of other eastern cities were generally electrified during the 1890's, while in the newer western cities electricity was used from the commencement. In the cities of Eastern Canada electric street railways are generally operated by private companies under city franchises, while in a considerable number of cities in Ontario and the West the street railways are owned and operated by the municipalities, a fact indicated in Table **28.** In 1921, on the expiry of the 30-year franchise of the Toronto Street Railway Co., the railway in this second largest city of Canada was taken over by the city and is now being operated by a transportation commission.

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[1] Revised and checked by G. S. Wrong, B.Sc., Chief of the Transportation and Public Utilities Branch of the Dominion Bureau of Statistics. This Branch publishes an annual report on Electric Railways in Canada.

Many difficulties are met in operating the cars during the winter season, owing to snow. This, however, has been overcome by the use of sweepers, scrapers and ploughs. The single overhead trolley system has been found the most suitable and is in general use and during the past few years an increasing number of motor buses have been used; in 1924 only 48 were operated, but by 1929 the number had increased to 484.

In addition to the street railways there is quite a large mileage of electric suburban or interurban lines, especially in the Toronto, Niagara and Lake Erie district, where considerable freight traffic is carried, and on the Pacific coast, where the British Columbia Electric Railway operates several hundred freight cars.

Development of Electric Railway Traffic.—Figures for the year 1893 show that 30 companies, with a paid-up capital of about $9,000,000, operated 256 miles of railway. By 1897, 35 companies made returns showing 583 miles of track, 1,156 cars, 26,431,017 miles run, 83,811,306 passengers carried and capital of $18,727,355. In 1904, 44 companies showed 766 miles of track, 2,373 passenger cars, 42,066,124 car miles run, 181,689,998 passengers and capital of $50,399,188. The statistics for 1929 show that during that year 57 companies with a capital of $222,422,815, had 2,202 miles computed as single track, 4,183 passenger cars, 484 buses, 572 freight cars and 75 electric locomotives, 139,199,634 car miles run, and 836,729,851 fare passengers. The number of employees in the service of electric railways on Dec. 31, 1929 was 18,801, as compared with 18,697 in 1928. Total salaries and wages for the year 1929 were $26,984,061, as against $26,494,063 in 1928.

Statistics of Electric Railways.—Summary statistics of the operation of electric railways in Canada from 1901 to 1929 inclusive are given by years in Table **25.** It may be noted in this table that the carriage of freight reached its maximum in 1928, with 3,892,114 tons, while the number of fare passengers carried in 1929 reached a new record of 836,729,851. This improvement was practically all in the large cities, the smaller systems showing decreases. In Table **26** statistics of mileage and equipment are given for the latest four calendar years, and annual statistics of the capital liability of electric railways are furnished from 1908 in Table **27.** Detailed figures of the mileage operated, the capital liability, the earnings, operating expenses, employees, and salaries and wages, are given for 1929 in Table **28,** while Table **29** shows by years from 1919 to 1929 the number of passengers, employees and others killed and injured on electric railways in Canada.

25.—Summary of Statistics of Electric Railway Operation, years ended June 30, 1901-1919, and calendar years 1919-1929.

Year.	Single Track Mileage in Operation.	Total Car Mileage.	Passengers.	Freight.	Gross Earnings.	Operating Expenses.	Ratio of Expenses to Receipts.	Employees.
	miles.	miles.	No.	tons.	$	$	p.c.	No.
1901	552·91	31,750,754	120,934,656	287,926	5,768,283	3,435,162	59·55	–
1902	557·59	35,833,841	135,681,402	266,182	6,486,438	3,802,855	58·63	–
1903	759·36	38,028,529	155,662,812	371,286	7,233,677	4,472,858	61·83	–
1904	766·50	42,066,124	181,689,998	400,161	8,453,609	5,326,516	63·01	–
1905	793·12	45,959,101	203,467,217	510,350	9,357,125	5,918,194	63·25	–
1906	813·74	50,618,836	237,655,074	506,024	10,966,871	6,675,037	60·87	–
1907	814·52	53,361,227	273,999,404	479,731	12,630,430	7,373,251	58·38	–
1908	992·03	56,964,881	299,099,309	732,475	14,007,049	8,695,880	62·08	–
1909	988·97	60,152,846	314,026,671	–	14,611,484	8,885,235	60·81	10,557
1910	1,047·07	65,249,166	360,964,876	852,294	17,100,789	10,121,781	59·19	11,390
1911	1,223·73	72,618,806	426,296,792	1,228,362	20,356,952	12,096,134	59·42	13,671
1912	1,308·17	82,070,064	488,865,682	1,435,525	23,499,250	14,266,675	60·71	14,760
1913	1,356·63	89,005,216	597,863,801	1,957,930	28,216,111	17,765,372	62·96	16,351
1914	1,560·82	98,917,808	614,709,819	1,845,923	26,691,007	19,107,818	64·36	16,195
1915	1,590·29	96,964,829	562,302,373	1,433,602	26,922,900	18,131,842	67·35	14,795
1916	1,673·77	82,516,612	580,094,167	1,936,674	27,416,285	18,099,906	66·02	10,622
1917	1,743·54	84,073,046	629,441,997	2,333,539	30,237,664	20,098,634	66·47	11,696
1918	1,616·36[1]	84,435,323[1]	487,365,456[1]	2,497,530[1]	24,299,890[1]	17,535,975[1]	72·16[1]	11,646[1]
1919	1,696·52	106,961,607	686,124,263	2,474,892	35,696,532	26,839,071	75·18	17,242
1919[2]	1,686·78	110,206,344	749,334,380	2,374,612	40,698,586	31,385,702	77·12	16,940
1920[2]	1,698·76	114,481,406	804,711,333	2,691,150	47,047,246	37,242,483	79·16	17,341
1921[2]	1,687·37	111,576,949	719,305,441[3]	2,285,886	44,536,832	35,945,316	80·71	17,015
1922[2]	1,724·60	116,711,189	738,908,949	2,445,425	49,660,485	35,986,872	72·47	18,099
1923[2]	1,736·31	119,374,416	737,282,038	3,145,863	50,191,387	36,171,923	72·07	17,779
1924[2]	1,736·77	119,803,072	726,497,729	2,546,928	49,439,559	36,125,213	73·07	17,379
1925[2]	1,737·52	119,684,151	725,491,101	2,706,312	49,626,231	35,426,487	71·39	16,933
1926[2]	1,684·18	122,935,055	748,710,836	3,493,457	51,723,199	36,453,709	70·50	16,961
1927[2]	1,652·15	131,583,717	781,398,194	3,269,028	53,506,401	37,616,568	70·30	18,090
1928[2]	1,653·22	133,689,589	808,023,615	3,892,114	55,632,761	38,782,719	69·71	18,697
1929[2]	1,636·76	139,199,634	836,729,851	3,662,765	58,268,980	40,085,140	68·79	18,801

[1] Not including Montreal Tramways and several other units. [2] Calendar year.

[3] The report of the Toronto Transportation Commission for the last four months of 1921 would increase this number by about 80,000,000 or possibly bring it up to the 1920 record.

26.—Mileage and Equipment of Electric Railways in the calendar years 1926-1929.

Item.	1926.	1927.	1928.	1929.
	miles.	miles.	miles.	miles.
Length of first main track	1,684·18	1,652·15	1,653·22	1,636·76
Length of second main track	553·39	562·94	565·66	565·27
Totals, Main Track	2,237·57	2,215·09	2,218·78	2,202·03
Length of sidings and turnouts	291·18	284·58	293·94	302·50
Totals, Computed as Single Track	**2,528·75**	**2,499·67**	**2,512·72**	**2,501·53**

Equipment.	1926.	1927.	1928.	1929.
	No.	No.	No.	No.
Passenger cars—				
closed	3,584	3,582	3,576	3,670
open	177	128	94	106
combination open and closed	5	1	5	–
combination passenger and baggage	18	21	20	17
without electrical equipment	400	377	383	390
Totals, Passenger Cars	**4,184**	**4,109**	**4,078**	**4,183**
Baggage, express and mail cars	28	29	28	30
Freight cars	635	651	629	572
Buses	233	334	399	484
Snow ploughs	64	63	68	80
Sweepers	164	164	168	164
Miscellaneous	297	254	318	291
Locomotives	60	62	61	75
Totals, Units of Equipment	**5,665**	**5,666**	**5,749**	**5,879**

27.—Capital Liability of Electric Railways, years ended June 30, 1908-1919, and calendar years 1919-1929.

NOTE.—The totals here given do not include $493,346 aid paid by Governments and municipalities.

Year.	Stocks.	Funded Debt.	Total.	Year.	Stocks.	Funded Debt.	Total.
	$	$	$		$	$	$
1908	50,295,266	37,114,619	87,409,885	1919	93,042,368	78,852,188	171,894,556
1909	51,946,433	39,658,556	91,604,989	1919[1]	91,757,418	81,283,922	173,041,340
1910	58,653,826	43,391,153	102,044,979	1920[1]	91,321,955	79,504,449	170,826,404
1911	62,251,203	49,281,144	111,532,347	1921[1]	91,169,885	86,017,551	177,187,436
1912	70,829,118	52,012,828	122,841,946	1922[1]	76,949,185	111,309,789	188,258,974
1913	62,079,767	79,155,864	141,235,631	1923[1]	76,674,185	122,395,685	199,069,870
1914	66,311,098	81,284,244	147,595,342	1924[1]	76,482,085	137,285,575	213,767,660
1915	66,696,675	83,647,327	150,344,002	1925[1]	58,567,242	163,201,978	221,769,220
1916	67,738,275	87,157,309	154,895,584	1926[1]	57,779,518	158,029,002	215,808,520
1917	70,606,520	90,628,219	161,234,739	1927[1]	58,873,778	163,678,939	222,552,717
1918	73,864,820	93,388,273	167,253,093	1928[1]	50,653,071	170,649,165	221,302,236
				1929[1]	54,453,321	167,969,494	222,422,815

[1] Calendar year.

28.—Mileage Operated, Capital, Earnings, Operating Expenses, Employees, and Salaries and Wages Bill of Electric Railways in Canada, year ended Dec. 31, 1929.

Name of Railway.	Mileage Operated.	Capital Liability.	Gross Earnings.	Operating Expenses.	Employees.	Salaries and Wages.
	miles.	$	$	$	No.	$
Brandon Municipal[1]	7·65	450,000	37,898	56,060	20	31,232
Brantford and Hamilton	23·19	960,000	207,933	135,131	40	55,749
Brantford Municipal[1]	17·73	511,000	158,532	120,876	60	79,028
British Columbia	224·98	22,415,246	6,056,115	4,752,257	2,215	3,685,760
Calais Street	7·00	100,000	20,857	22,725	14	15,135
Calgary Municipal[1]	53·06	2,730,097	1,021,445	623,634	245	471,360
Canadian National Electric Railways; Toronto Suburban District	49·06	4,378,000	166,902	238,160	117	146,832
Cape Breton Electric Co.	30·59	2,535,000	263,044	226,638	84	129,135
Chatham, Wallaceburg and Lake Erie	36·65	1,560,600	135,938	127,438	49	51,718
Cornwall Street Ry., Light and Power Co.	4·00	330,000	105,903	67,167	38	48,720
Edmonton Radial[1]	33·23	3,063,163	845,500	548,548	262	424,542
Fort William Street[1]	20·56	1,229,000	195,465	155,893	63	100,472
Grand River	18·63	551,000	365,763	300,416	175	205,393
Guelph Radial[1,2]	8·49	402,962	89,700	81,295	38	46,290
Hamilton, Grimsby and Beamsville	22·60	385,000	215,017	169,816	46	64,581
Hamilton Radial[3]	–	–	13,208	7,801	–	7,903
Hamilton Street	18·00	3,205,000	1,650,262	1,183,630	502	675,127
Hull Electric	16·54	292,000	302,108	233,478	106	152,795
International Transit Co.	4·97	150,000	70,713	44,306	42	52,059
Kitchener Public Utilities Street Ry. Dept.[1,2]	6·55	233,092	140,576	88,210	33	53,049
Kingston, Portsmouth and Cataraqui	6·00	179,850	51,141	46,414	28	35,102
Lake Erie and Northern	51·00	3,817,500	301,463	258,306	124	134,354
Lethbridge Municipal[1]	8·25	466,170	62,207	50,908	24	34,574
Lévis Tramways Co.	11·50	1,115,000	173,361	129,553	71	95,926
London and Port Stanley (Lessors)	24·50	1,775,185	–	–	–	–
London and Port Stanley (Lessees)		1,638,500	609,165	458,738	137	191,690
London Street	34·04	1,112,480	592,844	495,219	224	306,904
Moncton Tramways, Electricity and Gas Co., Ltd.	2·72	1,265,900	16,190	28,126	13	12,317
Montreal Tramways	153·21	51,173,543	15,609,069	9,459,880	4,941	6,341,846
Montreal and Southern Counties[4]	56·02	500,000	677,748	551,546	232	306,749
Moose Jaw	9·00	795,372	93,747	90,323	38	53,619
Nelson Municipal[1]	3·38	71,000	17,450	27,583	12	18,935

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[1] Municipally owned. [2] Operated by Hydro Electric Power Commission of Ontario. [3] Service discontinued Jan. 5, 1929. [4] Stock owned by Canadian National Railways.

28.—Mileage Operated, Capital, Earnings, Operating Expenses, Employees and Salaries and Wages Bill of Electric Railways in Canada, year ended Dec. 31, 1929—concluded.

Name of Railway.	Mileage Operated.	Capital Liability.	Gross Earnings.	Operating Expenses.	Employees.	Salaries and Wages.
	miles.	$	$	$	No.	$
New Brunswick Power Co..	16·60	5,349,500	424,021	317,530	130	157,912
Niagara Falls Park and River Division of the Inter. Ry.	11·65	600,000	166,249	174,285	45	88,717
Niagara, St. Catharines and Toronto[2]	69·52	925,000	1,067,984	835,568	546	655,128
Niagara, Welland and Lake Erie	1·51	292,000	15,117	11,448	5	6,774
Nipissing Central[6]	10·77	159,000	55,391	61,942	20	29,431
Nova Scotia Tramways and Power Co.	14·83	5,898,473	720,096	521,419	202	354,284
Oshawa[2]	12·24	40,000	422,690	243,978	150	193,543
Ottawa	29·31	6,384,300	1,889,916	1,211,916	575	869,301
Pictou County Electric Co..	6·10	203,500	62,231	43,088	22	25,413
Port Arthur Civic[1]	13·43	551,984	198,687	162,402	59	100,399
Quebec Railway, Light and Power Co.[4]	23·78	–	1,202,414	1,026,929	575	660,819
Regina Municipal[1]	25·59	1,727,018	431,408	262,261	104	192,571
Saskatoon Municipal[1]	15·33	1,096,519	396,480	260,197	109	170,798
Sandwich, Windsor and Amherstburg[1], [3]	43·93	5,416,205	1,227,864	936,016	341	484,072
Sarnia Street	8·75	179,200	74,706	60,338	31	39,368
Shawinigan Falls Terminal.	2·30	442,700	119,652	92,370	20	32,537
Sherbrooke Railway and Power Co.	10·30	2,533,500	146,269	130,026	98	85,726
Suburban Rapid Transit Co.	19·72	600,000	165,080	140,258	–	–
Sudbury, Copper Cliff Suburban	7·90	248,100	88,965	69,515	19	23,735
Sydney and Glace Bay	–	833,000	–	–	–	–
Three Rivers Traction Co..	9·00	963,700	179,197	163,759	50	71,024
Toronto Transportation Commission[1]	120·95	36,906,900	14,332,266	9,029,312	4,323	6,749,713
Toronto and York Radial[1], [5]	48·77	2,452,896	304,791	354,640	–	–
Township of York and Town of Weston[1], [5]	8·70	1,332,605	313,570	217,654	–	–
Windsor, Essex and Lake Shore Rapid[8]	37·35	1,750,000	109,326	126,241	71	65,748
Winnipeg	65·65	35,245,055	3,710,791	2,716,590	1,273	1,842,214
Winnipeg, Selkirk and Lake Winnipeg	39·68	900,000	176,555	135,383	40	55,938
Totals	**1,636·76**	**222,422,815**	**58,268,980**	**40,085,140**	**18,801**	**26,984,061**

[1] Municipally owned. [2] Owned by Canadian National Rys. [3] Operated by the Hydro Electric Power Commission of Ontario. [4] Citadel division operations only. Total capital and operations of the Montmorency division are included in steam railways. [5] Operated by Toronto Transportation Commission. [6] Provincially owned. [7] Operated by Cape Breton Electric Co. [8] For 8 months—sold to local municipalities August, 1929.

29.—Number of Passengers, Employees and others Killed and Injured on Electric Railways, calendar years 1919-1929, with Totals from 1894 to June 30, 1919.

Note.—Details for years ended June 30, 1900-1919, are given on p. 611 of the 1926 Year Book.

Year.	Passengers.		Employees.		Others.		Totals.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Total, 1894 to June 30, 1919	**259**	**23,802**	**162**	**5,009**	**833**	**10,698**	**1,254**	**39,419**
1919	4	1,717	29	951	58	1,505	91	4,173
1920	9	1,968	7	658	75	1,434	91	4,060
1921	5	1,110	8	609	35	666	48	2,385
1922	6	2,260	10	873	31	700	47	3,833
1923	6	2,465	11	1,652	45	790	62	4,907
1924	2	2,279	6	1,262	54	824	62	4,365
1925	9	2,272	5	1,736	37	744	51	4,752
1926	3	2,420	7	1,642	66	879	76	4,941
1927	–	2,090	7	1,508	71	1,260	78	4,858
1928	1	2,735	12	1,114	86	1,139	99	4,988
1929	5	2,808	5	1,200	93	1,372	103	5,380

PART IV.—EXPRESS COMPANIES.[1]

"Express service is an expedited freight service on passenger trains". But express companies do not own the means of performing their services; they use railway facilities by virtue of contracts with the railway companies. Express companies in Canada have had close relations with the railways practically from the beginning. A brief history of the various express companies will be found on pp. 611-612 of the 1926 Year Book.

Before 1915, an express company in Canada was not liable for delay or damage caused by anything quite beyond its control, thus maintaining itself as an entity separate from the railway company. But in 1915 this liability was qualified, and thenceforth an express company became liable for delay or injury of goods if either was caused by the railway company in whose cars the goods were being carried.

Goods are sent by express for quick transit, so that express rates do not compete with freight rates. Thus in its first tariff the Dominion Express Co., in pursuance of its contract with the Canadian Pacific Railway, gave a rate of 2½ times the maximum first-class railway freight rate for the same goods carried the same distance. An express company usually pays the railway company a percentage of its gross earnings; for example, the Canadian Express Co. paid the Grand Trunk 50 p.c. But the railway, by controlling the stock, has an additional revenue; and since express companies have little equipment but offices, and therefore have small expenses for upkeep, the railway receives in the end practically all the profits of the express company above bare operating expenses. Express rates, like freight rates, are subject to the approval of the Board of Railway Commissioners.

Express Company Operations.—During 1929, the latest year for which the statistics of the Transportation Branch of the Dominion Bureau of Statistics are available, there were four Canadian and one American express organizations operating in Canada. The Canadian Pacific Express Co., formerly the Dominion Express Co., is a subsidiary of the Canadian Pacific Railway and handles the express business on the railways and the inland and ocean steamship lines of the parent company. The express business of the Canadian National System is handled by a department of the railway. The British America Express Co. operates over the Algoma Central and Algoma Eastern Railways. The Central Canada Express Co. was formerly operated over the Central Canada, the Edmonton, Dunvegan and British Columbia and the Alberta and Great Waterways Railways, but in 1927 its business was taken over by the Canadian National Express Department. With the amalgamation of these railways in 1929 and formation of the Northern Alberta Railways Company, the express business was handled by a department of the new company from Nov. 1, 1929. The American Railway Express Co. operates over the Canadian sections of United States railways and over the route from Skagway to points in the Yukon Territory. The business of this company was taken over by the Railway Express Agency, Incorp., on Mar. 1, 1929. These companies are organized under powers conferred by Acts of the Dominion Parliament, and their business consists in the forwarding of parcels, the transfer of baggage and the issue of money orders, travellers' cheques, letters of credit and other forms of financial paper (Table **32**). The total capital liabilities of the two Canadian companies and of the Canadian National Express Department stood at $8,529,573 on Dec. 31, 1929.

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[1] Revised and checked by G. S. Wrong, B.Sc., Chief of the Transportation and Public Utilities Branch of the Dominion Bureau of Statistics. This Branch issues an annual report on Express Statistics.

Statistics of the receipts and expenses of express companies in Canada are given in summary form for all companies for the years 1919 to 1929 in Table **30**, and for each company for the year 1929 in Table **31**. In these tables the amounts paid by express companies to the carriers, *i.e.*, railways, steamship lines, etc., for transporting the express matter, are shown under the heading "express privileges". Table **31** also shows the mileage operated by each company in 1929. Of the total of 66,061 miles, 44,345 were over steam railways, 372 over electric railways, 14,227 on ocean steamship services (mainly by the Canadian Pacific lines), and 6,945 miles on inland or coastal steamboat routes.

30.—Summary Statistics of Revenues and Expenses of Express Companies, 1919-1929.

NOTE.—Similar figures for the years ended June 30, 1911-19, were published at p. 673 of the 1927-1928 Year Book.

Calendar Year.	Gross Earnings.	Operating Expenses.	Express Privileges.	Net Operating Revenue.
	$	$	$	$
1919	24,933,219	13,227,652	12,936,615	−1,231,048
1920	30,512,504	16,120,880	16,009,460	−1,617,836
1921	32,504,894	15,601,187	16,549,915	353,792
1922	28,697,332	13,596,518	14,581,789	519,025
1923	27,625,700	13,217,780	14,342,410	65,511
1924	26,196,017	12,723,651	13,557,168	−84,802
1925	25,876,342	12,336,485	13,312,960	226,897
1926	26,554,378	12,442,257	13,466,863	645,258
1927	26,532,182	12,548,374	13,275,355	708,453
1928	27,674,270	13,032,376	13,459,187	1,182,707
1929	27,758,385	13,480,028	13,598,575	679,782

31.—Revenues, Expenses and Operating Mileage of Express Companies, by Companies, calendar year 1929.

NOTE.—"American Railway Express" includes the American Express Co., Great Northern Express Co., Wells, Fargo & Co., consolidated during the war under the operation of the United States Government. This company was replaced by the Railway Express Agency Mar. 1, 1929.

Company.	Gross Earnings.	Operating Expenses.	Express Privileges.	Net Operating Revenue.	Mileage Operated.
	$	$	$	$	miles.
American Railway Express	192,836	69,226	120,981	2,628	4,003
British America Express	36,653	10,879	18,327	7,448	410
Canadian National Railways	14,628,709	7,147,182	6,609,003	872,524	24,624
Canadian Pacific Express	11,852,485	5,896,375	6,170,055	−213,945	32,153
Northern Alberta Railways	20,369	7,187	10,184	2,998	862
Railway Express Agency	1,027,333	349,179	670,025	8,128	4,009
Totals	**27,758,385**	**13,480,028**	**13,598,575**	**679,781**	**66,061**

32.—Business Transacted by Express Companies in Financial Paper in the calendar years 1926-1929.

Description.	1926.	1927.	1928.	1929.
	$	$	$	$
Money orders, domestic	58,757,263	61,898,551	63,968,315	62,812,788
Money orders, foreign	924,551	1,318,094	1,338,257	1,494,848
Travellers' cheques, domestic	1,304,220	3,844,700	5,180,857	5,474,960
Travellers' cheques, foreign	1,168,929	1,331,335	1,558,322	1,789,439
"C.O.D." cheques	7,743,099	7,448,715	8,295,720	8,206,098
Telegraphic transfers	462,740	486,821	492,691	561,414
Other forms	1,037,240	1,652,317	2,331,129	2,335,914
Totals	**71,398,042**	**77,980,533**	**83,165,201**	**82,675,461**

PART V.—ROADS AND HIGHWAYS.[1]

Historical.—The early roads were auxiliary to water routes as avenues of transportation. Their use became common during the summer season, when portages were necessary to avoid obstacles to river and lake travel, and during the winters, when ice prevented navigation and snow covered the inequalities of the ground. Even the extensive system of waterways of Eastern Canada was an inadequate means of communication between points of settlement in a rapidly growing colony, and the need for overland routes manifested itself in the introduction of the system of common roads which prevailed under the old *régime*. Not only did the crude early roads serve the needs of the settlers, but also those of the British, French and American armies during the numerous campaigns. Soldiers were frequently employed, during times of peace, in road construction in different parts of Upper and Lower Canada.

The first important highway in Canada extended along the north shore of the St. Lawrence from Quebec to Montreal, being gradually completed with the growth of the French settlements. In Upper Canada, one of the earliest roads (Yonge St.), was that from Toronto to lake Simcoe, completed in 1794 under the direction of Gov. Simcoe, the work being done by the Queen's Rangers. This road not only gave access to the area north of Toronto, but also provided a more convenient route than that of the Ottawa river from the trading posts on the Upper Lakes to the centres of population along the St. Lawrence. Montreal was joined to Kingston by road in 1816, and in the following year to Toronto. Thereafter other highways to inland settlements, from points served by water routes, began to increase in number, as it became apparent that they were essential to the commercial life of the country as a means of transporting supplies to the settlers and of bringing their products to the central markets of the colony. The system of posts, which had been established about the beginning of the nineteenth century, necessitated passable routes between the various points, and by 1827 a through road was available between Halifax and Amherstburg, comprising for the most part the old Kempt road, the York road, Dundas street and the Baldoon road. From this trunk line of communication, branch roads extended north and south to the more important centres of population in the two Canadas.

The cost of construction of these roads was high, and travel by stage coach was tedious and costly. As late as 1850 some points in central Ontario were still inaccessible to any vehicle. Later years, however, have brought with them improved methods of construction and a resulting reduction in expenses, together with an improvement in the wearing qualities of the more important highways. The growth of motor traffic has played a conspicuous part in the recent movement towards increased and improved road construction. In the older provinces of the East it has been a question of improving the existing roads and of building highways for the use of through traffic between the larger cities, while in the western provinces it has been more a matter of replacing the prairie and mountain trails with roads fit for modern tourist and other traffic.

A table of road mileage in Canada follows. When it is considered that throughout the Dominion there are about 25 persons to every mile of road and that on an average there is one mile of road for every 9 square miles of land, the magnitude of the problem faced in the construction of these traffic routes is illustrated. A small population scattered over a large area has made this, like other transportation problems, particularly difficult of solution.

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[1] Revised by G. S. Wrong, B.Sc., Chief of the Transportation and Public Utilities Branch of the Dominion Bureau of Statistics, which publishes an annual report entitled "Highways and Motor Vehicles in Canada".

33.—Classification of Canadian Highways, by Provinces, Dec. 31, 1929.[1]

Province.	Unimproved.	Improved Earth.	Gravel.	Water-bound Macadam.	Bituminous Macadam.	Bituminous Concrete.	Cement Concrete.	Total.
	miles.	miles.	miles.	miles.	miles.	miles.	miles.	miles.
P. E. Island	2,466·0	1,089·0	90·0	–	–	4·7	·3	3,650·0
Nova Scotia	7,756·9	3,435·0	3,321·9	30·2	6·3	–	–	14,550·3
New Brunswick	4,340·0	3,889·0	3,581·0	–	15·0	–	–	11,825·0
Quebec	20,575·9	339·9	10,155·8	1,356·7	178·6	327·8	105·6	33,040·3
Ontario	–	24,210·1[2]	36,053·9	2,806·4	1,277·7	442·2	1,304·2	66,102·5[3]
Manitoba	21,400·0	1,784·0	2,437·0	–	–	25·0	–	25,646·0
Saskatchewan	63,696·0	87,764·0	840·0	–	–	–	–	152,300·0
Alberta	45,584·0	16,000·0	842·0	–	–	–	–	62,426·0
British Columbia	–	13,572·6[2]	6,192·8	155·9	436·3	115·5	40·0	20,519·9[4]
Totals	**165,818·8**	**152,083·6**[2]	**63,514·4**	**4,349·2**	**1,913·9**	**915·2**	**1,450·1**	**390,060·0**

[1] Manitoba figures are for April 30, and B.C. figures for Mar. 31, 1929.
[2] Includes some unimproved earth roads.
[3] Includes 8 miles of other classes.
[4] Includes 6·8 miles of other classes.

Good Roads Movements.—The building of new roads and the improvement of those already in use is a matter of such general interest that numerous organizations have been developed throughout the country for the purpose of advising and assisting the various Governments in the work. Good roads associations, assisted by the automobile and motor clubs, are to be found in most of the provinces, for the distribution of propaganda and the education of the public in the need of improved highway routes. Provincial revenues from the taxation of motor vehicles and gasolene are very generally allocated to the construction and maintenance of improved highways. Thus Ontario alone, in its fiscal year ended Oct. 31, 1929, spent for highway maintenance and construction $19,500,000, as compared with a revenue of $17,000,000 from gasolene tax, motor licences, etc.

The Canada Highways Act.—By c. 54 of the Statutes of 1919, the Dominion Parliament authorized the expenditure of $20,000,000 for the purpose of constructing and improving the highways of Canada during the five years succeeding the passage of the Act. In its apportionment, grants of $80,000 were made to each province during each of the five years, the remainder being allotted in proportion to their respective populations. Details as to cost, time, methods of construction, etc., of all roads built under the scheme were to be arranged between the Minister of Railways and Canals and the various Provincial Government Departments. By c. 4 of 1923 and c. 4 of 1925 the operation of the Act was extended to April 1, 1928. A table on p. 669 of the Canada Year Book, 1929, shows the working of the Act and the allocation of expenditure as between the Dominion and the various provinces down to Mar. 31, 1928. The grant has been expended and no further federal appropriation has been made under this Act.

PART VI.—MOTOR VEHICLES.

The earliest motor vehicles were propelled by steam, the history of the gasolene motor car commencing with the successful construction of a gasolene engine by Daimler in 1884. Until 1900 France remained the headquarters of the industry, possessing in that year more than half of the 10,000 cars in operation in Europe, while in the United States the number of cars was only about 700. Shortly afterwards, the invention of the Ford car resulted in a keen competition to bring motor cars within the reach of the average man, profits being secured from large production rather than high prices. Detroit became the centre of the automobile industry of the United States and the Canadian side of the Detroit river became the headquarters of the Canadian industry. As a consequence, the population of the border towns Windsor, Walkerville and Sandwich greatly increased between 1911 and 1921, while the town of Ford (now East Windsor), which had no existence in 1911, had 5,870 inhabitants in 1921 and 13,531, according to the municipal assessors, in 1928, when the aggregate for the "Border Cities" was over 105,000. Problems of regional location have resulted, during more recent years, in a gradual shifting of the centre of the industry, and the Toronto and Oshawa districts now rival in importance the older established centre on the Detroit river.

Like many other inventions, the motor car commenced as a toy, then became a luxury of the rich, while now it ranks as a necessity of life to a large proportion of the population. In the past few years, the motor truck and the motor bus have assumed considerable economic importance, and are separately classified in Table **35.**

Up to the present the motor vehicle has affected the passenger traffic of the steam and electric railways more than the freight. Five interurban electric railways have recently ceased operation and passenger traffic on the smaller electric railways and on the steam railways has declined during the last decade instead of increasing with increased population. This diversion of passenger traffic has been effected largely by the private automobile, although the motor bus is rapidly becoming more important and is now operating between all large centres. The motor truck is also carrying an increasing amount of freight, although no statistics are yet available showing the tonnage handled.

The automobile manufacturing industry in Canada has made very rapid growth since its beginning about the year 1905, two of its chief tendencies during the period having been a consolidation of smaller firms into large units and the adoption of large-scale methods of production, similar in many ways to those of the United States industry. A brief statement of its history, with statistics of production, etc., is to be found on pp. 432-436 of the Canada Year Book, 1924, while more recent statistics of production will be found in Chapter XIV of this volume which deals with manufactures.

Section 1.—Statistics of Motor Vehicle Operation.[1]

Registration.—The increase in the use of motor vehicles in Canada has been very rapid. In 1904 the number of motor vehicles registered in Ontario was only 535. In 1907, 2,130 motor vehicles were registered in six provinces, and in 1908, 3,033 in eight provinces, the motor car being at that time prohibited in Prince Edward Island. From these small beginnings Table **34** shows an increase to 1,239,889 motor vehicles in 1930, an increase over 1929 of 44,295, or more than the total number of motor vehicles registered in 1912. In Table **35** are given by provinces the numbers of motor vehicles registered in 1930, classified as passenger cars, commercial cars or trucks, motor buses and motor cycles.

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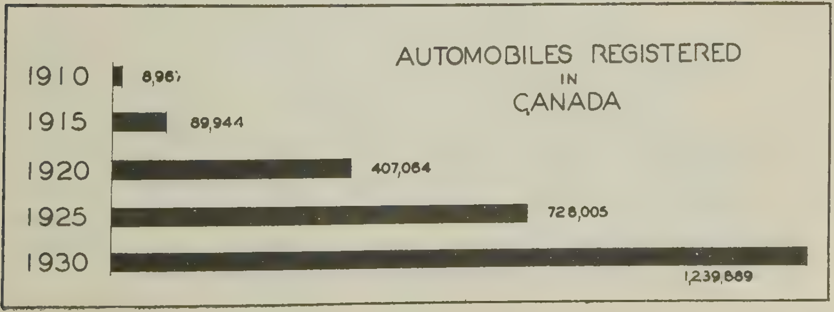
[1] Revised by G. S. Wrong, B.Sc., Chief of the Transportation and Public Utilities Branch of the Dominion Bureau of Statistics. The subject is treated in greater detail in "Highways and Motor Vehicles in Canada," published annually by this Branch.

As was the case in general business, registrations of motor vehicles showed a smaller increase in 1930 than in any previous year, being only 3·7 p.c. more than in 1929. Over 45 p.c. of all motor vehicles in Canada were registered in Ontario and the average number per capita was also greater than in any of the other provinces. For Canada there was an average of 9·5 persons for each passenger automobile and 8·0 persons for each motor vehicle, Ontario leading the provinces with 6·8 and 5·9, respectively, and British Columbia second with 7·4 and 6·0 persons per vehicle. According to the latest statistics of the National Automobile Chamber of Commerce of the United States, only three countries—the United States with 26,501,443, England with 1,242,839, and France with 1,240,000—had in 1929 larger registrations of motor vehicles than Canada, and only the United States had a larger registration of passenger automobiles.

34.—Number of Motor Vehicles Registered in Canada, by Provinces, calendar years 1907-1930.

Note.—The number of motor vehicles in the Yukon is included in the totals for Canada, 1914-30.

Year.	P.E. Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Canada.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1907	–	62	–	254	1,530	–	54	55	175	2,130
1908	–	65	104	296	1,754	412	74	65	263	3,033
1909	–	69	167	485	2,452	662	149	275	504	4,763
1910	–	148	299	786	4,230	1,524	531	423	1,026	8,967
1911	–	228	483	1,878	11,339	2,436	1,304	1,631	2,220	21,519
1912	–	456	700	3,535	16,266	4,099	2,286	2,505	4,289	34,136
1913	26	511	824	5,452	23,700	5,475	4,659	3,773	6,138	50,558
1914	31	1,324	1,328	7,413	31,724	7,359	8,020	4,728	7,628	69,598
1915	34	1,841	1,900	10,112	42,346	9,225	10,225	5,832	8,360	89,944
1916	50	3,012	2,965	15,335	54,375	12,765	15,900	9,516	9,457	123,464
1917	303	5,350	5,251	21,213	83,308	17,507	32,505	20,624	11,645	197,799
1918	639	8,100	6,434	26,897	114,376	24,012	50,531	29,300	15,370	275,746
1919	967	10,210	8,306	33,547	144,804	30,118	56,855	34,000	22,420	341,316
1920	1,419	12,450	11,196	41,562	177,561	36,455	60,325	38,015	28,000	407,064
1921	1,751	14,205	13,615	54,670	206,521	40,215	61,184	40,235	32,900	465,378
1922	2,167	16,159	13,746	61,995	240,933	42,200	61,367	40,642	34,526	513,821
1923	2,483	18,354	16,829	72,448	280,996	42,428	67,337	44,841	41,053	586,850
1924	2,583	20,764	19,975	85,145	308,693	44,322	70,754	51,148	48,626	652,121
1925	2,955	22,853	19,022	97,657	344,112	51,241	79,078	54,357	56,618	728,005
1926	3,460	25,879	21,541	108,332	388,728	57,857	97,267	65,590	68,009	836,794
1927	4,388	30,059	24,544	128,459	436,120	63,905	106,599	73,830	77,612	945,672
1928	5,430	35,256	28,072	148,473	491,140	71,163	121,615	89,249	86,244	1,076,819
1929	6,141	40,014	31,852	169,547	544,476	77,840	130,229	99,650	95,647	1,195,594
1930	7,402	43,036	34,833	178,976	564,669	79,308	129,861	102,652	98,943	1,239,889



In Table **35** the registration of motor vehicles in 1929 and 1930 is given according to the general type or purpose of the cars in use in each of the provinces.

35.—Types of Motor Vehicles Registered in Canada, by Provinces, in the calendar years 1929 and 1930.

Province.	Passenger Cars.[1]	Commercial Cars or Trucks.[2]	Motor Buses.	Taxicabs.[3]	Motor Cycles.	Dealers' Cars.	Total.
	No.	No.	No.	No.	No.	No.	No.
1929.							
Prince Edward Island	5,537	568	–	–	11	25	6,141
Nova Scotia	33,748	5,828	–	–	300	138	40,014
New Brunswick	27,962	3,553	41	–	162	134	31,852
Quebec	132,839	25,982	514	7,390	2,380	442	169,547
Ontario	473,222	64,562	587	–	3,541	2,564	544,476
Manitoba	68,441	8,246	–	–	572	581	77,840
Saskatchewan	108,630	18,671	907	–	218	1,803	130,229
Alberta	85,087	12,482	–	761	390	930	99,650
British Columbia	78,065	15,804	203	–	1,272	303	95,647
Yukon	132	52	3	–	11	–	198
Totals	**1,013,663**	**155,748**	**2,255**	**8,151**	**8,857**	**6,920**	**1,195,594**
1930.							
Prince Edward Island	6,611	738	1	–	26	26	7,402
Nova Scotia	36,078	6,489	–	–	319	150	43,036
New Brunswick	30,318	4,148	51	–	172	144	34,833
Quebec	140,802	27,820	524	7,019	2,383	428	178,976
Ontario	491,007	67,084	643	–	3,924	2,011	564,669
Manitoba	68,550	9,780	–	–	520	458	79,308
Saskatchewan	108,161	18,106	651	–	275	2,668	129,861
Alberta	85,067	15,068	–	537	447	1,533	102,652
British Columbia	80,766	16,284	228	–	1,352	313	98,943
Yukon	134	66	–	–	9	–	209
Totals	**1,047,494**	**165,582**	**2,098**	**7,556**	**9,427**	**7,731**	**1,239,889**

[1] Includes taxicabs in British Columbia.

[2] Includes tractors, road machines, flushers, and municipal fire engines, etc. in Quebec and taxicabs in Ontario.

[3] Includes motor buses in Alberta.

Government Revenue.—The taxation of motor vehicles, garages, chauffeurs, etc., is becoming a lucrative source of Provincial Government income. In every province the operation of automobiles and motor cycles is dependent on carrying a licence duly issued by the various authorities, while similar licences permit the maintenance of garages and the driving of cars or trucks by hired chauffeurs. Perhaps the most recent form of levy on the use of motor vehicles is the gasolene tax, which has been assessed in all provinces since 1927. The accompanying table (**36**) shows the provincial revenue for the years 1929 and 1930, indicating, at the same time, the more important sources from which it is derived.

36.—Provincial Revenues from the Taxation of the Distribution and Operation of Motor Vehicles, for the years 1929 and 1930.

Province.	Passenger Cars.	Trucks, etc.	Motor Cycles.	Dealers' Licences.	Garages.	Operators and Chauffeurs.	Mileage Tax on Motor Buses and Trucks.	Gasolene Tax.	Total, Including Miscellaneous Revenue.
	$	$	$	$	$	$	$	$	$
1929.									
P. E. Island	102,385	9,139	77	812	-	803	-	108,156	223,570
Nova Scotia	705,541	129,757	-	9,658	-	66,761	2,267	712,159	1,645,862
New Brunswick	582,811	131,837	942	7,757	775	51,864	-	499,907	1,281,741
Quebec	3,489,809[1]	-	-	-	-	1,249,275	20,809	3,535,861	8,430,883
Ontario[4]	4,986,419	1,785,717	13,631	67,928	26,955	627,384	189,573	8,497,594	16,523,438
Manitoba	861,476	91,842	2,859	16,864	-	50,606	-	738,800	1,786,685
Saskatchewan	1,917,431	342,220	1,656	59,630	227	9,495	-	1,431,809	3,838,809
Alberta	1,829,046	-	1,447	30,698	735	79,010	14,836	2,148,419	4,360,082
British Columbia	1,578,008	407,133	7,104	19,585	-	49,548	-	1,072,263	3,163,075
Yukon	1,300	550	33	-	-	-	-	[3]	2,296
Totals	**16,054,226[1]**	-	-	-	-	**2,184,746**	**227,485**	**18,744,968**	**41,256,441**
1930.									
P. E. Island	129,370	12,306	154	1,230	-	1,047	-	128,366	274,360
Nova Scotia	779,216	158,839	-	9,211	-	78,725	1,947	851,725	1,904,205
New Brunswick	625,978	181,145	-	7,662	805	56,976	-	659,797	1,536,784
Quebec	5,182,324[1]	-	-	-	-	-	40,297	4,075,368	9,373,585
Ontario[4]	2,881,891	1,442,762	11,084	43,336	27,930	632,243	162,372	10,756,836	16,323,036
Manitoba	866,398	112,585	2,534	14,792	-	68,506	-	1,099,778	2,179,672
Saskatchewan	1,422,555	419,611	1,617	42,705	233	11,390	-	1,538,556	3,493,105
Alberta	1,528,805	360,886	2,602	37,228	511	25,297	18,013	1,939,048	3,953,975
British Columbia	1,635,868	421,852	7,483	20,092	-	55,238	-	1,605,751	3,780,348
Yukon	1,310	640	27	-	-	-	-	[3]	2,438
Totals	**15,053,725[5]**	-	-	-	-	-	**222,629**	**22,655,225**	**42,821,508**

[1] Revenue not segregated. [2] Includes total, not segregated, of first five columns for Quebec. [3] No gasolene tax. [4] Revenue figures for Ontario are for fiscal years ended Oct. 31. [5] Includes total, not segregated, of first six columns for Quebec.

Imports and Exports of Motor Vehicles.—Imports and exports of motor vehicles in the fiscal years ended 1908 to 1930 are shown, by number of cars and by values, in Table **37.** In the earlier years the imports of cars far exceeded the exports, but as the Canadian automobile manufacturing industry became established, exports commenced to exceed imports and in the four fiscal years up to and including 1926 averaged between two or three times the value of the imports, while the number of cars exported exceeded the number imported in an even larger proportion. During the fiscal year 1927, however, while the exports almost maintained the high figures of previous years, the imports increased so much as again to approach the value of the exports, and in the fiscal year 1928 the imports exceeded the exports by nearly $9,000,000, owing to a continued increase in the importation of motor vehicles of all kinds and to the contraction in exports caused by the closing down of the factories of one of the largest makers of low-priced cars, pending the introduction of new models. In the fiscal year 1929, with this firm again producing, the total number of cars exported was more than double the number imported, and the proportion was about the same in 1930. The importation of parts has increased with the growth of the industry and amounted in the fiscal years ended Mar. 31, 1928 and 1929, to $33,237,181 and $55,761,414 respectively, but in 1930 decreased to $35,746,929. In the same fiscal years exports (including re-exports) of automobile parts were $3,304,937, $3,804,743 and $3,555,523 respectively.

37.—Canadian Imports and Exports of Motor Vehicles, fiscal years ended Mar. 31, 1908-1930.

Fiscal Year.	Imports of Motor Vehicles.				Exports of Motor Vehicles (including re-exports).			
	Passenger.		Freight.[1]		Passenger.		Freight.[2]	
	No.	$	No.	$	No.	$	No.	$
1908	674	912,971	-	-	205	320,708	-	-
1909	533	585,097	-	-	279	450,127	-	-
1910	1,424	1,732,215	-	-	448	627,469	-	-
1911	3,488	4,235,196	-	-	787	892,212	-	-
1912	6,022	6,511,115	-	-	2,156	2,039,993	-	-
1913	8,377	9,738,839	-	-	4,091	2,952,988	-	-
1914	6,288	7,213,375	-	-	6,691	4,321,369	-	-
1915	5,476	4,888,704	-	-	5,579	3,290,234	-	-
1916	8,055	5,089,329	-	-	17,493	9,223,813	-	-
1917	12,037	7,981,177	327	423,824	10,331	5,637,465	-	-
1918	16,118	11,317,245	964	1,275,179	8,829	4,471,521	-	-
1919	6,473	5,326,510	1,744	2,274,748	11,867	6,328,447	2,584	1,347,521
1920	10,805	11,204,461	2,274	3,831,084	20,883	13,589,423	4,166	2,319,629
1921	5,907	8,399,537	1,706	3,578,938	15,870	11,867,425	3,441	2,733,775
1922	7,181	9,501,362	806	1,537,765	13,676	7,879,845	1,314	673,038
1923	11,402	11,857,165	1,082	1,889,105	45,372	25,987,515	3,726	1,456,795
1924	9,549	9,532,350	1,340	1,910,808	54,939	27,566,869	15,419	5,545,225
1925	8,835	8,726,714	934	1,364,664	44,626	22,393,397	11,790	4,055,796
1926	14,935	14,022,814	1,189	1,772,414	61,860	29,888,014	19,238	6,300,327
1927	29,202	23,882,455	2,548	3,200,626	51,639	24,244,987	20,423	6,899,526
1928	35,783	29,234,603	4,208	5,187,889	32,076	19,833,969	15,115	5,611,929
1929	42,447	34,173,547	7,417	8,795,929	72,524	31,654,942	31,499	11,845,468
1930	33,834	28,060,872	5,078	6,403,794	50,873	23,690,765	29,732	12,140,486

[1] Freight automobiles were classified with passenger automobiles in figures of imports until 1917.
[2] Freight automobiles were classified with passenger automobiles in figures of exports until 1919.

Section 2.—Motor Vehicle Acts and Regulations.[1]

The following is a brief synopsis of the laws and regulations in force in each province.

Prince Edward Island.—Under the Highway Traffic Act 1930, and regulations, all cars must be registered in the office of the Provincial Secretary. In addition to a registration fee of $2.50 for cars not previously registered in the province or $1 if registered before, and a marker fee of $1, an annual tax of 80 cents per 100 pounds weight is payable on Mar. 1, but is not required of non-residents if the province or State of origin grants exemptions to Prince Edward Island privately owned passenger motor vehicles. Chauffeurs must be 18 years of age; all other drivers of cars, owners included, must be 16 years old and must be licensed. Every car must have a lock or other device to prevent it from being operated when left unattended. The speed limits are: in cities, towns and villages 15 miles an hour, on approaches to steep descents, bridges, or highway crossings 10 miles an hour, on roads outside cities or incorporated towns on which the driver has not a clear view for at least one hundred yards free from turns and intersections 15 miles an hour, and in all other places a speed reasonable and proper.

Nova Scotia.—The Motor Vehicle Act requires cars to be registered by the Motor Vehicle Branch, Department of Highways, which issues permits renewable annually on Mar. 31. Cars belonging to persons residing outside of Nova Scotia need not be registered if registered where the owners reside, and operated for private use. This privilege is given for a period of not more than three months in each year. If owners come into the province to reside permanently or to carry on business they must register. Every person who operates a motor vehicle must be licensed as a chauffeur, an operator, or a beginner. Motor vehicles must be equipped as provided in the Uniform Vehicle Code. The following are the permissible rates of speed: 15 miles an hour at railway crossings, schools, intersections with obstructed vision, curves with obstructed vision, danger zones; 20 miles an hour in a business district or residential district; 35 miles an hour under all other conditions. Commercial vehicles over 1 ton capacity, 25 miles an hour maximum speed.

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[1] This information in this Section has been revised by the officials in charge of the administration of Motor Vehicle Acts and Regulations in the different provinces.

New Brunswick.—Under the Motor Vehicle Law, 1926, the registering and licensing authority is the Motor Vehicle Branch, Department of Public Works. Cars must be registered when new and, besides the registration fee, an annual fee is payable on Jan. 1. Non-residents may not operate cars registered in another province during more than 90 days in any year without registering in New Brunswick. A chauffeur must be 18 years old; chauffeurs must take out licences and must qualify by examination. The driver of a car must have a permit. If the driver is between 16 and 18 years of age the permit will be granted only after he passes an examination proving his ability to operate a car. To owners, as well as other persons not having a chauffeur's licence, the driver's licence fee is $1. The speed limits are: in places which are closely built up, or in any city, town or village, 15 miles on hour; outside of any city, town or village where the road cannot be seen clearly for 200 yards, 20 miles an hour. Driving recklessly, or at a speed greater than 40 miles an hour on a highway, may result in a fine, imprisonment, or suspension of licence. All vehicles keep to the right.

Quebec.—The law regarding motor vehicles is contained in the Quebec Revised Statutes, 1925, c. 35. Cars must be registered in the office of the Provincial Treasurer and re-registered annually on Mar. 1. Certain government and municipal cars and farm tractors are given free registration, while exemptions are made in the case of pleasure cars registered in other provinces and certain commercial vehicles but only in cases specified in Article 10 of the Act. All drivers of cars must be licensed and 18 years old. Cars, when left unattended, must be locked in such a way as to prevent their use, and must have mufflers. The speed limits are: in cities, towns and villages, 20 miles an hour; on highways where the land is closely built up, 20 miles an hour, and in open country, 30 miles an hour. Motor vehicles must be stopped before driving over a railway crossing. Motors must stop for street cars which are standing to take on or discharge passengers, and must reduce the speed to 16 miles an hour when meeting another vehicle. These rates have reference to pleasure cars only. In the case of a commercial vehicle having non-pneumatic tires, a speed of 8 miles an hour when loaded and 10 miles an hour when unloaded is allowed. When equipped with pneumatic tires the corresponding rates are 12 and 15 miles an hour. Motor buses are allowed a speed of 30 miles an hour in open country.

Ontario.—In this province the Highway Traffic Act, under the administration of the Motor Vehicles Branch of the Department of Public Highways, regulates the operation of motor vehicles on the highways. Motor vehicle permits and drivers' licences are issued for the calendar year. No one under the age of 16 years may operate a motor vehicle and persons between the ages of 16 and 18 years must hold chauffeurs' licences. Those operating as chauffeurs or for hire must hold chauffeurs' licences and all other drivers must hold operators' licences. Vehicles owned by residents of other provinces who do not reside or carry on business in Ontario for more than three consecutive months in each year may be operated in Ontario without Ontario registration plates. Passenger cars registered in the United States may be operated in Ontario without Ontario plates for thirty days in any one year. The speed limit in cities, towns and villages is 20 miles an hour and, in open country, 35 miles an hour. At intersections, level railway crossings and where the view of the driver is obscured the speed allowed is 10 miles within and 15 miles outside of cities, towns and villages. Vehicles must not pass street cars which are stationary for the purpose of taking on or discharging passengers. At intersections the motor vehicle on the right has the right of way and before entering or crossing a through highway a vehicle must be brought to a full stop. A motor vehicle must be equipped with non-glare headlights, muffler, windshield wiper and mirror. Under Part XIII of the Act a person convicted of certain serious offences in connection with the operation of motor vehicles or a person against whom an unsatisfied judgment is outstanding is required to file proof of his financial responsibility. All accidents resulting in personal injuries or property damage apparently exceeding $50 must be reported to the nearest provincial or municipal police officer.

Manitoba.—Under the Highway Traffic Act, 1930, cars must be registered in the office of the Municipal Commissioner, and registration is renewable annually on Jan. 1. Chauffeurs must not be under 18 years of age, and other drivers not under 16 years of age. All drivers must be licensed. No person not a resident of the province shall operate without a licence for a period exceeding 30 days of the date of entry, unless the province or State in which he resides gives reciprocity in this respect. Any motorist must stop and produce his licence for inspection if called upon to do so by an Inspector of Motor Vehicles, or any police officer. Penalties for driving car while intoxicated include imprisonment and impounding of the car. No person shall operate a motor vehicle upon any highway or street at a greater speed than is reasonable and proper, having regard to the condition of the highway and the traffic. The onus of proof is on the motorist. No ray of light from any headlight shall be thrown in a horizontal direction at a greater height from the ground than 42 inches in front of the motor vehicle when travelling on the highways. The use of search-lights and glare headlights is absolutely forbidden on the highway. Number plates must be carried on the front and rear of vehicles so as to be plainly visible. All vehicles must move to the right-hand side of the road and give sufficient room for passing when overtaken by the driver of an automobile or other vehicle and given a signal to pass. In the event of an accident the driver involved must give every help possible, and give his name and address to the police officer or, if no officer is at hand, report to the nearest police station or officer. Failure to comply may involve a fine of $50 or 30 days' imprisonment.

Saskatchewan.—The licensing authority under the Vehicles Act is the Minister of Highways. Licences expire annually on Dec. 31. Licence fees for private vehicles are computed on the wheel base, the minimum fee being $10, the maximum $30.

The fee for motor trucks is computed on the size of rear tires and the gross weight. The gross weight consists of weight of vehicle empty plus the maximum load which will at any time be carried, as submitted by the owner. Trucks are divided into five classes. For each converted truck which has gross weight not exceeding 3,000 lb., the fee is $10. For each truck equipped with a lifting device for service purposes, $25. For each truck used for general commercial purposes the minimum fee is $12.50, the maximum $150. Owners of this type of vehicle receive a licence and plates bearing before the number the letter "T". For each truck to be used solely within the corporate limits of a city or exclusively in connection with owner's farming operations, minimum licence fee $12.50, maximum $35. Licence plates for the former bear initial letters "UT" (urban trucks), the latter being described as farm trucks. The owner of a truck in addition to being supplied with two licence plates to be attached one on the front and one on the rear of the truck also receives two weight plates to be attached one on each side of the vehicle, embossed with the gross weight in pounds for which the licence fee has been paid.

The fee for a livery licence is $8 more than the fee paid for a private or truck licence. Every applicant for a livery or chauffeur's licence must satisfy the Minister of Highways that he is a fit and proper person capable of operating a motor vehicle, and all applicants resident in a city or town are required to obtain endorsement of their application by the Chief Constable, the Secretary-Treasurer being responsible in the smaller urban and rural municipalities. A chauffeur's licence the fee for which is $5 may be granted to applicants under 18 years of age only upon passing a special examination test. No person under the age of 16 years may drive a motor vehicle. All motor vehicles except motor cycles must expose two number plates. The registration fee for a motor cycle is $6.

Classes known as "freight vehicles" and "public vehicles", in addition to being registered under the Vehicles Act, must also secure licences under the Public Vehicles Act, 1928, and are required to display a second set of plates. Such vehicles must be equipped with liquid fire extinguishers and standard speedometers. Public vehicles must in addition be internally lighted, such light being kept constantly lighted between the hours of sunset and sunrise at all times when occupied by passengers. The registration fees under this Act are, for the former, a sum equal to one-half the sum paid under the Vehicles Act, and for the latter are dependent upon the passenger capacity. The drivers of these vehicles are further required to obtain permits from the Minister of Highways to operate such vehicles. Motor vehicles must carry lights at night and all front lights must be equipped with non-glare devices.

While a non-resident may use his motor vehicle within the province for a period of, or for periods together amounting to, not more than three months in any year, the expression "non-resident" does not include the owner of a motor truck used for any portion of the year in connection with construction work of any kind. Cars must be equipped with mufflers. Cities, towns, and villages have authority to regulate the speed limits within their respective boundaries. While the speed of private vehicles on the public highway is governed by the amount of traffic which is, or may reasonably be expected to be, on the highway, taking into consideration the nature, condition and use of such highway, no loaded truck shall be driven at a greater speed than 25 miles per hour, and no unloaded truck shall be driven at a greater speed than 35 miles per hour, while no motor vehicle may be driven at a greater speed than 35 miles per hour when passing any motor or other vehicle going in the opposite direction. No motor vehicle and its load shall have a greater width than 96 inches.

Motor vehicles must stop for street cars which are taking on or discharging passengers. Upon meeting another vehicle at an intersection of highways, the vehicle to the right hand has the right of way. Should a driver on leaving a stopping place in a city or town, desire to turn, he may do so only at an intersection of the public highway.

Alberta.—The law relating to motor vehicles is contained in the Vehicles and Highway Traffic Act, 1924. Cars must be registered in the office of the Provincial Secretary, who issues certificates which are renewable annually on Jan. 1. Paid chauffeurs must be licensed. No chauffeur's licence shall be issued to any person under the age of 18. Drivers' licences came into effect on July 1, 1929, but no person under the age of 16 shall drive or operate a motor vehicle. The speed limits are: 20 miles an hour in cities, towns and villages, 10 miles an hour at street crossings and bridges, and 30 miles an hour outside cities, towns and villages. A motor car may not pass a street car which has stopped for passengers to get on or off. A resident of the United States or of any province in Canada, who has complied with the provisions of the law regarding registration of his motor vehicle in the State or province in which he resides, may use his motor vehicle within the province for a period or periods together not exceeding 3 months in any year without registration. The same applies to drivers' licences. The Provincial Secretary may revoke or suspend the licence of any chauffeur convicted under the provisions of the Liquor Act of selling or having for sale intoxicating liquor. Provision is made for the impounding of cars by the authorities where the owners or drivers are convicted of driving cars while intoxicated or convicted under other sections of the Act relating to speeding and juvenile driving. There is provision against the carrying of loaded weapons in an automobile—a preventive measure against accidents during hunting trips.

British Columbia.—Under the Motor Vehicle Act and amending Acts, all motor vehicles are to be registered with the Commissioner of Provincial Police. Trailers must also be licensed. Motor vehicles registered outside of the province may be used for touring purposes for a period up to six months providing that they apply for and obtain within 24 hours after commencing to operate in the province a non-resident touring permit (where the owner of a motor vehicle brought into the province for touring purposes is a resident of the United States, it is not necessary that he obtain a touring permit, provided that he carries the customs permit).

Chauffeurs must take out chauffeurs' licences, of which there are three classes:—Class A, entitling the holder to drive and operate every kind of motor vehicle; Class B, entitling the holder to drive and operate any motor vehicle having a seating capacity not exceeding seven passengers inclusive of the driver, and any motor vehicle used exclusively in the transporting of personal property; and Class C, entitling the holder to drive and operate any motor vehicle used exclusively in the transporting of personal property. To obtain a Class A or Class B licence, it is necessary for the applicant to pass a written examination on the Motor Vehicle Act and Highway Act and Regulations thereunder; also to produce proof of his ability to drive, and to pass a medical examination. Non-resident chauffeurs who have complied with the laws of their place of residence are exempt from taking out chauffeurs' licences while driving foreign-registered motor vehicles for which a touring permit has been issued and is in effect and, in the case of United States owned cars, for which a permit is not necessary, while carrying the customs permit. No chauffeur under 21 years of age shall operate a motor vehicle carrying passengers for hire unless he is the holder of a special permit.

No person shall drive or operate any motor vehicle on any highway unless he is the holder of a driver's licence. No person under 17 years of age may drive a motor vehicle on any highway, except that a person between 15 and 17 years of age may obtain a special permit upon application of the parent or guardian and after passing an examination. The parent or guardian is civilly liable for loss or damage caused through the negligence or improper conduct of such minor, in operating any motor vehicle entrusted to the minor by the parent or guardian. Permit to minor is confined to the use of one particular car. A learner-driver's licence, good for 30 days, may be issued to a learner free of charge to be used only while such learner is accompanied by an adult holder of a driver's licence who occupies the seat beside the applicant. (In the case of a motor cycle, it is not necessary to be accompanied by an adult holder of a driver's licence.) At the expiration of 30 days, the learner-driver's licence is to be surrendered and a regular driver's licence taken out.

A motor-vehicle dealer requires a dealer's licence to sell motor vehicles and to operate the same for purposes of demonstration. Motor-vehicle salesmen require licences to operate motor vehicles bearing demonstration plates. Prospective purchasers can only operate motor vehicles bearing demonstration plates upon written consent from the dealer, good for 48 hours and for not more than two such periods in any year. Mechanics in the employ of the dealer may operate motor vehicles bearing demonstration plates for conditioning or testing without obtaining licences or written consent.

Motor vehicles are to be driven in a careful and prudent manner at all times. The onus is on the driver for driving to the common danger if driving at a greater speed than 20 miles per hour in any city, town or village; or 30 miles per hour outside cities, towns or villages; or greater than the maximum rate of speed stated on signs erected on certain portions of the highway. A motor vehicle may not pass a standing street car at more than 5 miles per hour, if such street car is not taking on or discharging passengers; and must stop at least 10 feet from and in the rear of the passenger exit if such street car is taking on or discharging passengers (in cities where safety zones are provided, motor vehicles are allowed to pass between safety zone and curb at a rate as set by by-law). A motor vehicle must not exceed a speed of 15 miles per hour when passing schoolhouses between the hours of 8 a.m. and 5 p.m. of any day on which school is regularly held, or public playgrounds for children between dawn and dusk. Accidents in which death or personal injury has occurred or in which loss or injury apparently exceeding $25 is sustained must be reported. All chiefs of police to whom such accident reports are furnished must forward copies within 24 hours to the Commissioner of Provincial Police.

No person shall ride as a passenger on a motor cycle in front of the person driving or operating the motor cycle. Persons carrying on business of letting motor vehicles for hire without drivers must first ascertain whether person hiring same is the holder of a driver's licence in the province and must have him sign his name in a record book and enter the number of his driver's licence. Notices of transfer must be registered in every case where there is a change in the interest or title of a motor vehicle. Provision is made for the surrender of drivers' licences upon conviction for an infraction of the Act or Regulations or of Section 285 of the Criminal Code; upon arrest or indictment for manslaughter a driver's licence is suspended. Owners of motor vehicles are responsible for violations of the Motor Vehicle Act or of traffic by-laws by persons entrusted with their motor vehicles. Any licence issued under the Act may be cancelled or suspended by the Commissioner for violations of the Act and Regulations or for any other reason where a person is considered unfit to drive or operate a motor vehicle.

Yukon Territory.—The Motor Vehicle Ordinance, No. 14, 1914, with amendments, requires all cars to be registered in the office of the Territorial Secretary, who issues certificates renewable annually on April 1. A non-resident may operate an unregistered motor for not more than 90 days. No male under 16, and no female under 18 years of age may drive a motor. In cities, towns and villages the speed limit is 15 miles an hour, or 10 miles an hour at street intersections.

PART VII.—AIR NAVIGATION.[1]

During 1930 steady progress was made in civil aviation. The Dominion and Provincial Governments extended the range and variety of their operations and commercial operating companies increased in number. Aircraft provide a ready means of obtaining accurate information of conditions in remote and unsettled parts, and easy access to them. Their use in the development and conservation of the natural resources is increasing every year. Air mail and air transport lines are now in operation in many parts of the Dominion.

Civil aviation in Canada is divided into two classes:—(1) Civil operations, carried out for other Government departments under the Director of Civil Government Air Operations; (2) Commercial aviation, under the regulation of the Controller of Civil Aviation. Both are under the Department of National Defence.

Directorate of Civil Government Air Operations.—This Branch carried out flying on forest fire patrols, fire suppression, oblique and vertical photography for surveys, aerial wheat dusting, air mail investigation, and transportation, etc., for different Government departments in various parts of the country. Permanent bases are established at High River, Alta.; Winnipeg, Man.; and Ottawa, Ont. The forest area under fire protection is approximately 100,000,000 acres. During 1930 a total of 75,000 square miles was photographed for survey purposes; the flying time on all operations for the period April to November was 13,546 hours.

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[1] Revised under the direction of J. A. Wilson, Esq., Controller of Civil Aviation, by A. E. Heatley, Department of National Defence.

Provincial Operations.—The Ontario Provincial Air Service owns and operates, in fire protection, transportation, aerial photography and sketching in northern Ontario, 33 aircraft. Operations covered an area of about 800 miles from east to west, and 400 miles from north to south. A total of 14,119 hours was flown during 1930. Quebec and British Columbia contract with commercial firms for the flying they require.

Commercial Aviation.—During 1930 there were 135 commercial operating companies in Canada; their activities included forest fire patrols, timber cruising, aerial photography, transportation of passengers, of express and mail, instruction, advertising, short passenger flights, etc., in various parts of the country.

Air Mail Service.—Regular air mail services were established in January, 1928. Contracts have been awarded to commercial firms by the Post Office Department[1] for the following air mail routes:—*Winter Services:*—Leamington-Pelee Island; Quebec-Seven Islands-Anticosti; Moncton-Magdalen Islands; Moncton-Charlottetown. *Summer Services:*—Rimouski-Montreal-Ottawa; Lac du Bonnet-Bissett-Wadhope. *Annual Services:*—Montreal-Detroit; Montreal-Albany; Sioux Lookout-Red Lake area; Toronto-Buffalo; Oskelaneo-Chibougamau; McMurray-Aklavik; Winnipeg-Regina-Calgary; Regina-Saskatoon-Edmonton; Montreal-Saint John; Montreal-Quebec; Peace River-North Vermilion; Amos-Siscoe. Mail to the extent of 474,199 lb. has been carried under contract without loss or damage during 1930. Surveys for the extension of the present routes are being undertaken as follows:—Ottawa-Winnipeg; Toronto-Sudbury; Prairie Provinces to Vancouver.

Encouragement of Aviation.—To encourage a more widespread interest and knowledge of aviation, the Department of National Defence in 1928 assisted by issuing two light aeroplanes to each of 23 flying clubs in the following localities:—Halifax, Granby, Montreal, Ottawa, Toronto, Hamilton, London, Walkerville, Winnipeg, Regina, Moose Jaw, Saskatoon, Calgary, Edmonton, Vancouver, Victoria, Cape Breton, Fort William, Saint John, Kingston, St. Catharines, Brantford and Brandon. Granby and Victoria have since withdrawn from the scheme. The total membership at present is 3,643. A total of 14,686 hours were flown, 178 members obtained private pilots' licences and 59 members obtained commercial pilots' licences during 1930. Many fine aerodromes have been established through this movement.

A large air terminal has been built at St. Hubert, seven miles south of Montreal, where a mooring tower for airships and an aerodrome are constructed; immigration, customs and postal facilities are available there. A terminal aerodrome has also been constructed at Rimouski for the despatch and reception of transatlantic mails by air.

Manufacture of Aircraft.—An aircraft industry, to construct in Canada the aircraft and equipment required for aviation, is essential to the sound development of flying. Canadian Vickers, the pioneer firm in Canada, maintain their own designing department and have produced several original types specially suited for operation in Canada. The increased interest and the growing operations of the Dominion and Provincial Governments and commercial operators, led to the establishment of increased manufacturing facilities. Several aircraft constructors from England and the United States have formed branches in Canada for the assembly and service of their products. The DeHavilland Aircraft of Canada, Ltd., established a plant in Toronto for the service and assembly of their aircraft, chiefly of the "Moth" light-aeroplane type. The Curtiss Reid Aircraft Co. established a factory in Cartierville, Que., the Fairchild Aircraft Ltd., at Longueuil, Que., the Boeing Aircraft of Canada, Ltd., at Vancouver; Ottawa Car Manufacturing Co. at Ottawa, for manufacture of A.V. Roe aircraft. Aero engine factories are established for construction or assembly and service of their products as follows:—Armstrong-Siddeley Motors, Ltd., at Ottawa; Aero Engines of Canada, Ltd., at Montreal, for "Wright" and "Bristol" engines; Canadian Pratt and Whitney Aircraft Co., Ltd., at Longueuil, Que.

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[1] For particulars regarding the administration of the Air Mail Service see pp. 744 and 745.

38.—Statistical Summary of Civil Aviation in Canada, 1925-1930.

Item.	1925.	1926.	1927.	1928.	1929.	1930.
General Analysis.						
Firms manufacturing aircraft	2	2	2	4	6	7
Firms chiefly operating aircraft	8	14	20	53	81	100
Firms using aircraft as auxiliary service	2	2	1	1	4	4
Aircraft flights made	3,171	4,755	16,748	75,285	144,143	156,174
Aircraft hours flown	4,091	5,860	12,070	43,071	79,786	92,993
Approximate aeroplane mileage	29,065	30,290	209,583	1,557,917	4,083,321	5,222,635
Approximate float seaplane mileage	218,686	356,481	247,238	797,998	1,768,738	2,024,219
Approximate boat seaplane mileage	–	–	372,189	352,029	426,064	286,628
Approximate amphibian mileage	8,075	6,332	–	20,341	5,956	13,938
Total aircraft mileage	255,826	393,103	829,010	2,728,414	6,284,079	7,547,420
Average flight duration (minutes)	77	74	43	32	33	36
Number of pilots carried	3,171	4,755	16,748	75,285	144,143	156,574
Number of passengers and crew carried	4,897	6,436	18,932	74,669	124,751	124,875
Total personnel carried	8,068	11,191	35,680	149,954	268,894	281,449
Pilots carried one mile (pilot-miles)	255,826	393,103	829,010	2,728,414	6,284,079	7,547,420
Passengers and crew carried 1 mile (passenger-miles)	446,648	631,715	1,424,031	2,883,782	6,114,997	5,408,676
Total personnel carried 1 mile (personnel-miles)	702,474	1,024,818	2,253,041	5,612,196	12,399,076	12,956,096
Total freight or express carried (lb.)	592,220	724,721	1,098,346	2,404,682	3,903,908	1,759,259
Total mail carried (lb.)	1,080	3,960	14,684	316,631	430,636	474,199
Licensed Civil Air Harbours.						
Total air harbours (all types)	34[1]	34	36	44	77	77
Licensed Civil Aircraft.[2]						
Aeroplanes (single-engined)	11	15	30	124	281	316
Aeroplanes (triple-engined)	–	–	–	3	2	2
Float seaplanes (single-engined)	1	–	16	100	119	183
Boat seaplanes (single-engined)	26	28	21	33	37	21
Amphibians (single-engined)	1	1	–	4	6	5
Total aircraft (all types)	39	44	67	264	445	527
Licensed Civil Air Personnel.						
Pilots only (flying machines)	18	20	43	258	349	408
Pilot-Air Engineers	18	18	29	70	96	131
Air Engineers only (flying machines)	55	65	74	130	212	241
Total licensed personnel	91	103	148	458	657	780
Unlicensed air mechanics employed	32	43	59	8	150	164

[1] 1925 figures include 10 outstanding applications on which fees have been paid.

[2] These figures show duplication, since in several instances the aircraft are used both as landplanes and seaplanes.

PART VIII.—CANALS.[1]

Before the period of extensive railway construction which commenced for Canada in the 1850's, the water routes, more especially the St. Lawrence, the Great Lakes and the Ottawa, were the chief avenues of transportation. These routes were interrupted at certain points, necessitating portages. The canals of Canada were constructed to eliminate the toil of unloading, transporting and reloading at the portages.

The earliest mention of canals in Canada is in connection with the Lachine canal, begun by early French settlers in 1700, but only after the conquest of Canada by the British were improvements of the main water routes made, and in the early part of the 19th century increased internal and foreign trade and the introduction of steam navigation resulted in more attention being given to this work. Although the canals were constructed primarily for military purposes, they soon became essential to the commercial life of the country.

Section 1.—Canal Systems.

There are in Canada seven canal systems under the control of the Dominion Government in connection with navigable lakes and rivers. They consist of the canals (1) between Port Arthur or Fort William and Montreal; (2) from Montreal to the International Boundary near lake Champlain; (3) from Montreal to Ottawa; (4) from Ottawa to Kingston and Perth; (5) from Trenton, lake Ontario, to lake Huron (not completed); (6) from the Atlantic ocean to Bras d'Or lakes, Cape Breton; and (7) from Winnipeg to lake Winnipeg. By means of these canals a total waterway of 1,846 miles has been opened to navigation, the actual mileage of canals being 509·18.

A detailed description of the individual canals was given on pp. 626-629 of the 1926 Year Book. Summary statistics of their length and lock dimensions are given in Table **39.**

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[1] Revised by G. S. Wrong, B.Sc., Chief of the Transportation and Public Utilities Branch of the Dominion Bureau of Statistics. This Branch publishes an annual report on "Canal Statistics".

39.—Canals of Canada, Length and Lock Dimensions, 1930.

Name.	Location.	Length in Miles.	Locks.			
			No.	Minimum Dimensions.		
				Length.	Width.	Depth.
St. Lawrence—				ft.	ft.	ft.
Lachine	Montreal to Lachine	8·74	5	270	45	14[1]
Soulanges	Cascades Point to Coteau Landing	14·67	5	280	45	15[1]
Cornwall	Cornwall to Dickinson's Landing	11·00	6	270	43·75	14[1]
Farran's	Farran's Point rapid	1·28	1	800	50	16[1]
Rapide Plat	Rapide Plat to Morrisburg	3·89	2	270	45	14[1]
Galops	Iroquois to Cardinal	7·36	3	270	45	14[1]
Welland	Port Dalhousie, lake Ontario, to Port Colborne, lake Erie	26·75	26	270	45	14[1]
Sault Ste. Marie	St. Mary's rapids, 47 miles west of lake Huron	1·38	1	900	60	18·25[1]
Richelieu River—						
St. Ours Lock	St. Ours, Que	0·05	1	200	45	7[1]
Chambly	Chambly to St. Johns, Que	11·76	9	120·5	23·3	6·5
Ottawa and Rideau Rivers—						
Ste. Anne Lock	Junction of St. Lawrence and Ottawa rivers	0·12	1	200	45	9
Carillon	Carillon rapids, Ottawa river	0·94	2	200	45	9
Grenville	Long Sault rapids, Ottawa river	5·94	5	200	45	9
Rideau	Ottawa to Kingston	126·25	47	134	33	5
	Rideau lake to Perth (Tay branch)	7·25	2	134	33	5

[1] Navigable depths are occasionally less at times of extremely low water.

39.—Canals of Canada, Length and Lock Dimensions, 1930—concluded.

Name.	Location.	Length in Miles.	Locks.			
			No.	Minimum Dimensions.		
				Length.	Width.	Depth.
				ft.	ft.	ft.
Miscellaneous—						
Trent	Trenton to Peterborough lock, Peterborough	88·74	18	175	33	8
	Peterborough lock to Swift rapids	135·71	24	134	33	6
	Swift rapids to Port Severn	16·10	(marine railway)			(4)
	Port Severn lock	–	1	100	25	6
	Sturgeon lake to Lindsay (Scugog branch)	8·35	1	142	33	6
	Lindsay to Port Perry (Scugog branch)	26·65	–	–	–	(4·5)
Murray	Bay of Quinte to lake Ontario	5·15	–	–	–	–
St. Peters	St. Peter's bay to Bras d'Or lakes, Cape Breton, N.S.	0·50	1	300	48	18
St. Andrews	Red river, 15 miles north of Winnipeg	–	1	215	45	17

Government Expenditures on Canals.—Tables **40** and **41** deal with the expenditure of the Dominion Government on the construction and maintenance of canals. The items of revenue and expenditure, showing in the fiscal year ended 1930 a slightly decreased net outlay as compared with 1929, indicate the net total expended on the maintenance of these water routes. All canals, it may be added, have since 1904 been free of tolls to vessels applying for the privilege of locking facilities. The total capital cost of Canadian canals since their construction was begun is set at $225,909,708. The heavy capital expenditures in recent years are due to the construction of the Welland Ship Canal, on which $112,891,842 had been spent up to Mar. 31, 1930. The lock gates were first opened on Apr. 21, 1930, and it is anticipated the canal will be completed in 1931.

40.—Expenditures and Revenues of Canals, fiscal years ended June 30, 1868-1906, and Mar. 31, 1907-1930.

Note.—For the individual years 1868 to 1910, see Canada Year Book, 1916-17, page 462.

Fiscal Year.	Expenditure Chargeable—					Total Expenditure.	Total Revenue.
	to Capital.	to Income.[1]	to Revenue.				
			Staff and Repairs, Canals in general.	Staff.	Repairs.		
	$	$	$	$	$	$	$
Before Confederation	20,593,866	98,378	–	–	–	20,692,244	–
1868-1910	76,388,584	6,465,248	1,594,241	11,695,311	9,488,903	105,632,287	14,156,391
1911	2,349,474	440,270	103,398	511,306	471,530	3,875,978	221,138
1912	2,560,939	442,012	109,651	585,900	555,710	4,254,212	263,717
1913	2,259,257	331,987	121,371	605,248	535,136	3,852,999	307,568
1914	2,829,661	389,285	147,729	642,845	574,039	4,583,559	380,188
1915	5,490,796	444,730	140,236	675,771	562,599	7,314,132	427,763
1916	6,142,149	397,665	139,952	697,532	529,565	7,906,863	446,722
1917	4,304,589	399,414	137,907	700,022	486,168	6,028,100	461,423
1918	1,781,957	111,553	149,859	743,857	540,331	3,327,557	414,868
1919	2,211,935	164,046	156,558	733,091	698,878	3,964,508	387,655
1920	4,579,565	798,113	157,886	745,986	713,335	6,994,885	441,926
1921	5,449,962	1,193,143	192,875	815,979	920,993	8,572,952	365,941
1922	4,482,639	836,810	209,201	983,042	1,105,054	7,616,746	804,516
1923	4,995,184	564,242	204,536	924,217	859,839	7,548,018	742,404
1924	6,747,395	479,900	204,653	980,094	942,056	9,354,098	897,412
1925	10,619,903	458,791	187,579	959,516	853,076	13,078,865	907,650
1926	12,024,461	501,449	182,376	1,046,568	873,682	14,628,536	920,900
1927	13,845,684	451,880	153,776	1,129,040	858,473	16,438,863	961,694
1928	13,762,905	418,719	175,818	1,212,721	1,150,241	16,720,404	1,355,677
1929	13,164,582	300,292	163,804	1,219,135	1,027,685	15,875,498	1,230,333
1930	9,324,221	348,517	200,721	1,157,353	1,105,386	12,136,198	1,043,647
Totals	**225,909,708**[2]	**16,036,444**	**4,834,127**	**28,764,534**	**24,852,679**	**300,397,492**	**27,139,533**

[1] The income account is of expenditures on buildings and permanent improvements; the revenue account is of expenditure on maintenance only.

[2] Including $34,967, chargeable to canals in general and not allocated to particular years.

41.—Capital Expenditures for Construction and Enlargement of Canals previous to, and for, the fiscal year ended Mar. 31, 1930.

Canal.	Expenditure, Previous Years.	Expenditure, Fiscal Year 1930.	Total Expenditure.
	$	$	$
Beauharnois	1,636,029	-	1,636,029
Carillon and Grenville[1]	4,191,757	-	4,191,757
Chambly	780,996	-	780,996
Cornwall	7,245,804	-	7,245,804
Culbute Lock and Dam	382,391	-	382,391
Lachine	14,077,287	Cr. 69,309	14,007,978
Lake St. Francis	75,907	-	75,907
Lake St. Louis	298,176	-	298,176
Murray	1,248,947	-	1,248,947
Rideau	4,214,264	-	4,214,264
Sault Ste. Marie	4,935,809	-	4,935,809
Soulanges	7,904,045	-	7,904,045
Ste. Anne Lock and Canal	1,320,216	-	1,320,216
St. Lawrence River and Canals—			
North Channel	1,995,143	-	1,995,143
River Reaches	483,830	-	483,830
Galops Channel	1,039,895	-	1,039,895
St. Lawrence Ship Canal	133,897	-	133,897
St. Ours Lock	127,229	9,177	136,406
St. Peters	648,547	-	648,547
Tay	489,599	-	489,599
Trent	19,386,800	7,299	19,394,099
Welland	29,905,745	Cr. 1,572	29,904,173
Welland Ship Canal	103,513,215	9,378,626	112,891,841
Williamsburg... Farran's Point	877,091	-	877,091
Galops	6,143,468	-	6,143,468
Rapide Plat	2,159,881	-	2,159,881
Williamsburg	1,334,552	-	1,334,552
Canals in general	34,967	-	34,967
Totals	**216,585,487**	**9,324,221**	**225,909,708**

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[1] The records relating to cost of construction by the Imperial Government were destroyed by fire in 1852 and the statistics are not included in this table.

Section 2.—Canal Traffic.

Tables **42** to **47** deal with the traffic passing through Canadian canals in recent years up to and including 1930. In this latest year the total traffic amounted to 14,803,334 tons, which was an increase of 1,103,687 tons from the total for 1929.

The large decrease in 1929 was almost entirely in grain shipments. Not only was the western crop reduced to less than half of the 1928 crop, but the movement to foreign markets was exceptionally slow. In 1930 grain shipments showed considerable improvement although still much lighter than in 1928. For details of the traffic handled through each canal see the annual report on canal statistics published by the Bureau of Statistics.

42.—Total Traffic through Canadian Canals navigation seasons 1900-1930. By Nationality of Vessels and Origin of Freight.[1]

NOTE.—For Canadian canal traffic from 1886 to 1899, see 1902 Year Book, p. 398.

Navigation Season.	Canadian Vessels.		United States Vessels.		Freight Carried.				
					Originating in Canada.		Originating in United States.		Total.
	No.	Registered Tonnage.	No.	Registered Tonnage.	Tons.	P.c. of total.	Tons.	P.c. of total.	Tons.
1900..	21,755	4,129,250	5,502	2,408,985	–	–	–	–	5,013,693
1901..	28,860	3,980,264	5,634	2,482,274	–	–	–	–	5,665,259
1902..	22,198	4,485,695	6,433	4,086,439	–	–	–	–	7,513,197
1903..	23,767	5,212,832	6,695	4,236,475	–	–	–	–	9,203,817
1904..	21,851	4,772,100	6,253	3,655,905	–	–	–	–	8,256,236
1905..	23,726	5,191,191	7,085	5,096,241	–	–	–	–	9,371,744
1906..	25,498	5,526,321	7,319	5,685,315	–	–	–	–	10,523,185
1907..	28,833	6,328,911	9,328	11,604,834	–	–	–	–	20,543,639
1908..	29,040	6,780,789	7,489	8,521,139	5,012,147	28·6	12,490,673	71·3	17,502,820
1909..	22,507	7,811,578	9,996	16,459,322	7,378,057	21·8	26,342,691	78·2	33,720,748
1910..	25,337	8,931,790	11,462	21,777,297	7,883,614	18·3	35,106,994	81·7	42,990,608
1911..	25,585	9,172,192	10,370	18,231,622	7,792,907	20·5	30,237,446	79·5	38,030,353
1912..	27,371	10,237,335	11,785	24,636,190	9,376,529	19·7	38,210,716	80·3	47,587,245
1913..	28,654	12,078,041	10,739	24,238,788	11,130,875	21·3	40,923,038	78·7	52,053,913
1914..	26,125	12,050,856	7,742	15,636,414	9,382,206	25·3	27,641,031	74·7	37,023,237[2]
1915..	21,575	9,398,207	6,415	7,385,101	6,789,423	44·7	8,409,380	55·3	15,198,803
1916..	23,002	9,839,029	6,800	10,660,839	7,486,962	31·7	16,096,529	68·3	23,583,491
1917..	21,588	9,831,694	6,594	10,259,772	5,964,369	26·8	16,274,566	73·2	22,238,935
1918..	18,909	7,800,972	6,791	9,616,200	3,369,477	17·8	15,514,142	82·2	18,883,619
1919..	20,682	8,735,973	4,092	5,259,173	4,865,831	48·7	5,129,435	51·3	9,995,266[3]
1920..	23,038	8,521,643	3,826	3,838,890	4,094,044	46·9	4,641,339	53·1	8,735,383
1921..	25,720	10,079,388	2,969	2,330,178	4,562,028	48·5	4,844,993	51·5	9,407,021
1922..	26,217	11,059,261	3,735	3,165,054	6,273,227	62·1	3,752,828	37·9	10,026,055
1923..	27,112	13,013,970	3,399	3,325,809	7,637,485	68·2	3,561,949	31·8	11,199,434
1924..	27,467	13,988,909	3,233	2,821,177	8,857,177	68·8	4,011,920	31·2	12,869,097
1925..	28,361	14,964,785	3,587	3,824,924	9,570,311	67·7	4,560,356	32·3	14,130,667
1926..	27,965	14,542,485	3,543	3,144,866	9,656,190	71·7	3,821,473	28·3	13,477,663
1927..	36,162	17,472,601	4,013	3,364,461	11,863,931	67·8	5,624,380	32·2	17,488,311
1928..	30,575	17,435,176	3,973	3,270,591	13,882,592	74·2	4,387,849	25·8	18,720,441
1929..	25,917	13,741,071	2,400	2,323,351	9,689,718	70·7	4,009,929	29·3	13,699,647
1930..	24,100	14,489,045	2,063	1,684,576	10,955,113	74·0	3,848,221	26·0	14,803,334

[1] Includes duplication where cargoes use two or more canals.

[2] Third lock of United States Sault Ste. Marie canal opened Oct. 21, 1914.

[3] Fourth lock of United States Sault Ste. Marie canal opened Sept. 18, 1919.

43.—Distribution of Total Freight Traffic on Canals, by Months, navigation seasons 1924-1930.[1]

Month.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	tons.	tons.	tons.	tons.	tons.	tons.	tons.
January........	279	63	–	541	535	–	–
April...........	454,131	488,541	–	673,811	111,161	711,312	294,038
May...........	1,729,639	1,789,528	1,691,689	2,426,701	2,452,368	2,155,653	2,023,657
June...........	1,834,908	1,789,160	2,309,478	2,497,073	2,583,737	2,165,033	1,966,064
July............	1,906,300	2,050,895	2,123,356	1,975,204	2,621,168	1,875,862	2,155,723
August.........	1,771,334	2,126,209	1,710,017	2,468,196	2,843,453	1,899,269	2,319,748
September.....	1,704,516	1,928,232	1,880,044	2,596,336	2,502,805	1,775,010	2,226,704
October........	1,952,133	2,110,830	2,039,909	2,646,216	2,792,983	1,759,939	2,170,635
November.....	1,282,611	1,604,237	1,522,764	2,022,010	2,540,168	1,258,485	1,493,992
December.....	233,246	242,972	200,406	182,223	272,063	99,084	152,773
Totals.....	**12,869,097**	**14,130,667**	**13,477,663**	**17,488,311**	**18,720,441**	**13,699,647**	**14,803,334**

[1] Includes duplications where cargoes use two or more canals.

44.—Tonnage of Canal Traffic, by Canals and Classes of Products, navigation seasons 1929 and 1930.[1]

Year and Canal.	Agricultural Products.	Animal Products.	Manufactures.	Forest Products.	Mine Products.	Total.
	tons.	tons.	tons.	tons.	tons.	tons.
1929.						
Sault Ste. Marie	1,480,282	977	527,194	42,986	322,680	2,374,119
Welland	2,438,980	75	943,437	331,959	1,055,415	4,769,866
St. Lawrence	2,292,796	10,188	1,012,004	733,491	1,670,172	5,718,651
Chambly	4,492	129	46,580	33,707	38,169	123,077
St. Peters	3,713	2,039	5,908	16,569	21,421	49,650
Murray	–	62	2,409	400	2,004	4,875
Ottawa	7,560	2,550	53,911	41,280	431,736	537,037
Rideau	450	1,233	26,495	1,275	16,448	45,901
Trent	114	15	819	16,633	262	17,843
St. Andrews	288	455	636	14,667	42,582	58,628
Totals[1]	**6,228,675**	**17,723**	**2,619,393**	**1,232,967**	**3,600,889**	**13,699,647**
1930.						
Sault Ste. Marie	1,064,501	638	439,478	57,034	129,820	1,691,471
Welland	3,095,486	–	1,104,644	367,214	1,520,566	6,087,910
St. Lawrence	2,878,692	8,598	974,336	726,711	1,590,686	6,179,023
Chambly	5,640	147	8,031	40,148	46,032	99,998
St. Peters	3,414	735	4,446	31,671	19,707	59,973
Murray	–	–	80	–	2,236	2,316
Ottawa	1,330	2,339	89,919	19,908	427,437	540,933
Rideau	608	1,128	25,090	832	552	28,210
Trent	70	10	1,193	19,762	2,750	23,785
St. Andrews	451	645	436	23,408	64,775	89,715
Totals[1]	**7,059,192**	**14,240**	**2,647,653**	**1,286,688**	**3,804,561**	**14,803,334**

[1] Includes duplications where cargoes use two or more canals.

45.—Principal Articles Carried through Canadian Canals during the navigation seasons 1927-1930.[1]

Article.	1927.	1928.	1929.	1930.	Increase in 1930.	Decrease in 1930.
	tons.	tons.	tons.	tons.	tons.	tons.
Barley	1,039,433	1,306,354	845,346	421,940	–	423,406
Buckwheat	26	4	–	5	5	–
Corn	216,877	119,448	127,398	132,532	5,134	–
Oats	307,585	782,000	514,784	249,264	–	265,520
Rye	1,413,541	636,289	125,574	126,169	595	–
Flaxseed	63,516	57,616	51,360	61,453	10,093	–
Peas	1	30	37	1	–	36
Wheat	7,513,489	8,303,353	3,905,653	5,400,500	1,494,847	–
Flour	419,202	470,255	532,984	583,488	50,504	–
Hay	16,678	11,245	21,827	8,764	–	13,063
Other milled products	19,167	22,250	88,084	55,113	–	32,971
Fruits and vegetables	4,759	6,301	12,758	8,376	–	4,382
Potatoes	3,054	4,161	2,870	2,587	–	283
Live stock	681	520	506	424	–	82
Poultry, game and fish	2,250	2,484	3,115	1,863	–	1,252
Dressed meats	27	12	12	78	66	–
Other packing-house products	1,275	3,174	1,633	1,572	–	61
Hides and leather	92	110	624	303	–	321
Wool	158	445	506	316	–	190
All other animal products	10,769	9,952	11,327	9,684	–	1,643
Agricultural implements	35,667	33,994	14,408	3,932	–	10,476
Cement, bricks and lime	58,764	7,961	2,272	14,861	12,589	–
Household goods and furniture	2,689	1,593	585	844	259	–

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[1] Includes duplications where cargoes use two or more canals.

45.—Principal Articles Carried through Canadian Canals during the navigation seasons of 1927-1930[1]—concluded.

Article.	1927.	1928.	1929.	1930.	Increase in 1930.	Decrease in 1930.
	tons.	tons.	tons.	tons.	tons.	tons.
Iron, pig and bloom	62,733	91,517	89,720	60,969	–	28,751
Iron and steel, all other	531,200	645,885	633,451	317,017	–	316,434
Petroleum and other oils	333,052	384,829	494,943	891,169	396,226	–
Sugar	205,832	263,101	323,126	306,183	–	16,943
Salt	23,485	19,588	21,560	23,232	1,672	–
Wines, liquors and beer	10,098	14,313	19,210	26,364	7,154	–
Merchandise not enumerated	920,345	1,050,967	1,020,118	1,003,082	–	17,036
Pulpwood	1,167,385	1,062,898	1,064,724	1,158,837	94,113	–
Sawn lumber	229,343	217,482	130,779	91,467	–	39,312
Squared timber	8,970	5,077	14,295	6,977	–	7,318
Shingles	2,256	693	1,218	3,904	2,686	–
Other woods	32,681	39,259	21,951	25,503	3,552	–
Hard coal	117,332	103,163	96,815	148,302	51,487	–
Soft coal	1,224,253	1,391,588	1,862,106	2,347,398	485,392	–
Coke	10,361	124,685	52,262	20,502	–	31,760
Copper ore	10,230	41,121	9,152	30,848	21,696	–
Iron ore	72,856	153,663	267,392	120,784	–	147,108
Other ore	59,314	44,348	36,120	86,072	49,952	–
Sand, etc	1,316,885	1,286,713	1,277,042	1,051,155	–	223,887
Totals[1]	**17,488,311**	**18,720,441**	**13,699,647**	**14,803,334**	**1,103,687**	–

[1] Includes duplications where cargoes use two or more canals.

46.—Canal Traffic during the navigation seasons of 1929 and 1930, by Direction and Origin.[1]

Canal.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.
1929.	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.
Sault Ste. Marie	437,454	1,265,718	6,910	139,589	30,880	124,522	185,114	183,932
Welland	595,466	1,927,939	184,543	500	81,144	98,532	7,212	1,874,530
St. Lawrence	1,337,115	2,152,362	441,691	10,636	19,436	3,875	58,630	1,694,906
Chambly	5,538	6,310	62,804	–	–	–	–	48,425
St. Peters	7,505	33,405	–	8,740	–	–	–	–
Murray	1,413	1,526	2	–	–	–	296	1,638
Ottawa	39,075	474,269	–	12,096	–	–	11,597	–
Rideau	40,876	5,025	–	–	–	–	–	–
Trent	4,079	13,764	–	–	–	–	–	–
St. Andrews	56,106	2,522	–	–	–	–	–	–
Totals	**2,524,627**	**5,882,849**	**695,950**	**171,561**	**131,460**	**226,929**	**262,849**	**3,803,431**
1930.								
Sault Ste. Marie	350,342	1,033,191	7,025	98,847	32,656	43,397	86,518	39,495
Welland	632,552	2,723,763	234,850	11,648	78,020	136,846	5,783	2,264,448
St. Lawrence	1,347,274	2,753,796	448,790	6,332	14,068	3,767	30,517	1,571,979
Chambly	16,158	3,007	44,224	–	–	–	–	36,609
St. Peters	8,550	41,817	–	9,606	–	–	–	–
Murray	35	80	–	–	–	–	–	2,201
Ottawa	89,264	442,052	–	3,605	–	–	6,012	–
Rideau	23,956	4,254	–	–	–	–	–	–
Trent	12,317	11,468	–	–	–	–	–	–
St. Andrews	85,416	4,299	–	–	–	–	–	–
Totals	**2,565,864**	**7,019,727**	**734,889**	**130,038**	**125,244**	**184,010**	**128,830**	**3,914,732**

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[1] Includes duplications where cargoes use two or more canals.

46.—Canal Traffic during the navigation seasons of 1929 and 1930, by Direction and Origin[1]—concluded.

Canal.	Total Traffic by Direction.		Origin of Cargo.		Total Cargo.	Increase (+) or Decrease (−) on Previous Year.
	Up.	Down.	Canada.	United States.		
	tons.	tons.	tons.	tons.	tons.	tons.
1929.						
Sault Ste. Marie	660,358	1,713,761	1,862,701	511,418	2,374,119	+ 366,982
Welland	868,365	3,901,501	2,935,213	1,834,653	4,769,866	− 2,669,751
St. Lawrence	1,856,872	3,861,779	4,122,533	1,596,118	5,718,651	− 2,692,891
Chambly	68,342	54,735	74,652	48,425	123,077	− 56,791
St. Peters	7,505	42,145	49,650	–	49,650	− 3,198
Murray	1,711	3,164	2,941	1,934	4,875	+ 3,490
Ottawa	50,672	486,365	519,656	17,381	537,039	+ 49,251
Rideau	40,876	5,025	45,901	–	45,901	− 6,098
Trent	4,079	13,764	17,843	–	17,843	− 18,468
St. Andrews	56,106	2,522	58,628	–	58,628	+ 6,680
Totals	**3,614,886**	**10,084,761**	**9,689,718**	**4,009,929**	**13,699,647**	**− 5,020,794**
1930.						
Sault Ste. Marie	476,541	1,214,930	1,504,707	186,764	1,691,471	− 682,648
Welland	951,205	5,136,705	3,917,884	2,170,026	6,087,910	+ 1,318,044
St. Lawrence	1,841,149	4,337,874	4,733,902	1,445,121	6,179,023	+ 460,372
Chambly	60,382	39,616	62,144	37,854	99,998	− 23,079
St. Peters	8,550	51,423	59,973	–	59,973	+ 10,323
Murray	35	2,281	115	2,201	2,316	− 2,559
Ottawa	95,276	445,657	534,921	6,012	540,933	+ 3,896
Rideau	23,956	4,254	28,210	–	28,210	− 17,691
Trent	12,317	11,468	23,785	–	23,785	+ 5,942
St. Andrews	85,416	4,299	89,715	–	89,715	+ 31,087
Totals	**3,554,827**	**11,248,507**	**10,955,356**	**3,847,978**	**14,803,334**	**+ 1,103,687**

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[1] Includes duplications where cargoes use two or more canals.

47.—Traffic through individual Canadian Canals during the navigation seasons of 1925-1930.

NOTE.—For corresponding figures for 1920-1924, see p. 636 of the 1925 Year Book.

Canal and Year.	Canadian Vessels.		United States Vessels.		Total Passengers.	Total Freight Carried.
	No.	Registered Tonnage.	No.	Registered Tonnage.		
		tons.		tons.		tons.
Sault Ste. Marie—						
1925	2,889	3,408,387	645	2,279,160	34,743	1,634,970
1926	2,693	3,357,785	657	1,594,186	32,099	1,423,275
1927	2,818	3,269,942	421	1,214,782	34,483	1,470,551
1928	2,940	3,415,478	418	1,171,011	34,289	2,007,137
1929	3,145	3,401,058	440	1,475,774	33,357	2,374,119
1930	2,595	2,622,448	362	859,128	27,831	1,691,471
Welland—						
1925	5,014	4,732,951	852	834,185	10	5,640,298
1926	4,741	4,340,398	787	712,648	25	5,214,514
1927	6,504	5,811,180	1,150	1,039,417	–	7,247,459
1928	5,365	5,598,493	1,222	1,051,464	–	7,439,617
1929	3,842	3,835,740	551	450,910	–	4,769,866
1930	4,623	5,028,583	629	545,984	1,580	6,087,910
St. Lawrence—						
1925	11,753	6,062,833	803	567,394	82,848	6,206,988
1926	12,671	5,946,289	857	696,124	81,128	6,123,701
1927	13,860	7,370,693	1,110	960,201	87,567	7,912,952
1928	13,152	7,416,426	1,258	922,377	85,926	8,411,542
1929	10,368	5,470,265	513	307,175	71,405	5,718,651
1930	9,177	5,759,178	342	211,882	51,848	6,179,023
Chambly—						
1925	453	63,610	1,023	119,931	661	203,720
1926	510	65,834	943	110,241	833	204,042
1927	541	67,402	870	107,370	609	204,536
1928	414	52,679	750	93,983	446	179,868
1929	397	55,559	569	67,869	318	123,077
1930	307	26,497	472	55,492	164	99,998

47.—Traffic through individual Canadian Canals during the navigation seasons of 1925-1930—concluded.

Canal and Year.	Canadian Vessels.		United States Vessels.		Total Passengers.	Total Freight Carried.
	No.	Registered Tonnage.	No.	Registered Tonnage.		
		tons.		tons.		tons.
St. Peters—						
1925	1,183	76,622	13	4,741	213	35,691
1926	990	65,507	18	3,976	208	43,545
1927	903	58,840	19	5,345	302	46,306
1928	964	65,306	20	6,287	174	52,848
1929	909	69,689	27	4,749	370	49,650
1930	845	76,861	20	2,923	194	59,973
Murray—						
1925	351	45,245	142	1,458	3,377	1,174
1926	313	106,843	63	10,466	7,586	895
1927	440	104,893	141	10,724	8,339	712
1928	290	46,081	86	1,282	2,325	1,385
1929	301	37,316	148	2,747	–	4,875
1930	279	66,128	164	3,572	–	2,316
Ottawa—						
1925	2,095	301,629	151	16,226	28,545	214,940
1926	2,422	415,257	151	15,696	23,010	321,456
1927	3,017	553,140	193	23,055	27,565	455,759
1928	3,694	606,187	178	23,014	24,116	487,786
1929	3,509	652,730	106	12,209	22,995	537,037
1930	3,209	687,987	49	5,013	22,982	540,933
Rideau—						
1925	1,458	103,503	38	1,533	4,359	85,785
1926	1,052	77,755	18	722	2,931	56,052
1927	1,139	84,081	30	1,525	3,803	57,951
1928	936	78,368	19	685	1,441	51,999
1929	744	64,259	17	602	1,115	45,901
1930	506	51,104	11	348	785	28,210
Trent—						
1925	2,681	98,162	20	296	53,936	36,302
1926	2,171	85,851	49	807	49,727	27,692
1927	2,577	82,411	79	2,042	47,954	27,754
1928	2,456	81,899	22	488	39,291	36,311
1929	2,024	64,588	29	1,315	33,908	17,843
1930	1,712	54,614	14	234	26,989	23,785
St. Andrews—						
1925	384	71,843	–	–	–	70,799
1926	402	80,966	–	–	14	62,491
1927	350	70,019	–	–	262	64,331
1928	364	74,259	–	–	138	51,948
1929	678	89,867	–	–	1,084	58,628
1930	847	115,645	–	–	893	89,715
Summary[1]—						
1925	28,261	14,964,785	3,687	3,824,924	208,692	14,130,667
1926	27,965	14,542,485	3,543	3,144,866	197,561	13,477,663
1927	32,149	17,472,601	4,013	3,364,461	210,884	17,488,311
1928	30,575	17,435,176	3,973	3,270,591	188,146	18,720,441
1929	25,917	13,741,071	2,400	2,323,350	164,552	13,699,647
1930	24,100	14,489,045	2,063	1,684,576	133,266	14,803,334

[1] Includes duplications where vessels use two or more canals.

The Panama Canal.[1]—The Panama canal, which was opened to commercial traffic on Aug. 15, 1914, is a waterway which is destined to be of the greatest importance to the British Columbian ports, from which vessels now leave direct for Great Britain and European ports throughout the year. As an alternative route to that of the transcontinental railway lines, such a passage by water is of vital importance in the solution of the larger transportation problems of the continent, and while its influence is perhaps more potential than actual, such a check on transcontinental rail rates is a valuable one. During the war the great expectations based upon the opening of the canal were not realized, owing to the scarcity of shipping, but, with the post-war decline in ocean freight rates, an increase in traffic between our Pacific ports and Europe is occurring, and, while the proportion carried in vessels of Canadian registry is comparatively small, the cargo tonnage has nevertheless assumed considerable proportions. During the year ended June 30, 1930, as will be seen from Table **48,** a tonnage of 261,532 originating on our eastern coast and a total of 179,242 tons destined for our western coast were carried westward through the canal. The greater importance of the route as one from Pacific to Atlantic ports is illustrated by the total of 1,947,277 tons from western ports and 189,349 tons destined for eastern Canadian ports locked through in the same period. Strictly intercoastal Canadian cargo during the year aggregated 192,438 long tons. The canal is thus becoming an avenue of trade between Eastern and Western Canada.

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[1] Revised and figures supplied by courtesy of the Governor of the Panama Canal Zone.

The report of the Governor of the Panama Canal Zone for the year ended June 30, 1930, records a decrease from 1929 of from 6,413 to 6,185 in the number of transits, but an increase from 29,837,794 to 29,980,614 in canal net tonnage and decreases from $27,127,377 to $27,076,890 in tolls collected, and from 30,663,006 to 30,030,232 in tons of cargo carried (Table **49**).

With respect to traffic by nationality of vessels and cargo carried, vessels of United States registration carried 14,499,233 tons, or 48·3 p.c. of the total cargo of 30,030,232 tons locked through in the year 1930. British vessels carried 7,572,969 tons, or 25·2 p.c., Japanese vessels 1,009,735 tons, or 3·4 p.c., German vessels 1,388,022 tons, or 4·6 p.c., and Norwegian vessels 1,808,278 tons, or 6·0 p.c.

48.—Traffic to and from the East and West Coasts of Canada via the Panama Canal, years ended June 30, 1921-1930.

Year.	Originating on—		Destined for—	
	Canada, West Coast.	Canada, East Coast.	Canada, West Coast.	Canada, East Coast.
	long tons.	long tons.	long tons.	long tons.
1921	125,638	39,561	126,414	16,558
1922	180,981	25,174	148,305	6,521
1923	604,546	92,939	101,588	125,283
1924	1,223,102	110,677	141,086	197,204
1925	1,082,282	121,803	158,709	379,284
1926	1,650,855	160,196	168,295	614,580
1927	1,548,783	207,003	248,009	803,418
1928	2,845,675	168,287	268,960	394,173
1929	2,578,982	202,522	226,810	510,475
1930	1,947,277	261,532	179,242	189,349

49.—Summary of Commercial Traffic through the Panama Canal, years ended June 30, 1915-1930.

Year.	Atlantic to Pacific.		Pacific to Atlantic.		Total Traffic.	
	Vessels.	Cargo Tonnage.	Vessels.	Cargo Tonnage.	Vessels.	Cargo Tonnage.
	No.	long tons.	No.	long tons.	No.	long tons.
1915	522	2,070,993	553	2,817,461	1,075	4,888,454
1916	396	1,369,019	362	1,725,095	758	3,094,114
1917	874	2,929,260	929	4,129,303	1,803	7,058,563
1918	915	2,639,300	1,154	4,892,731	2,069	7,532,031
1919	857	2,740,254	1,167	4,176,367	2,024	6,916,621
1920	1,180	4,092,516	1,298	5,281,983	2,478	9,374,499
1921	1,471	5,892,078	1,421	5,707,136	2,892	11,599,214
1922	1,509	5,495,934	1,227	5,388,976	2,736	10,884,910
1923	2,125	7,086,259	1,842	12,481,616	3,967	19,567,875
1924	2,740	7,860,100	2,490	19,134,610	5,230	26,994,710
1925	2,413	7,398,397	2,260	16,560,439	4,673	23,958,836
1926	2,760	8,037,097	2,437	18,000,351	5,197	26,037,448
1927	2,888	8,583,327	2,587	19,164,888	5,475	27,748,215
1928	3,384	8,310,134	3,072	21,320,575	6,456	29,630,709
1929	3,348	9,882,520	3,065	20,780,486	6,413	30,663,006
1930	3,135	9,475,725	3,050	20,554,507	6,185	30,030,232

PART IX.—SHIPPING AND NAVIGATION.[1]

Canadian shipping may be divided into three classes: (1) ocean or sea-going shipping; (2) inland or rivers and lakes international shipping; and (3) coasting trade or coastwise shipping. Ocean shipping covers the sea-going vessels arriving or departing from Atlantic and Pacific coast ports, including St. Lawrence river ports up to Montreal. Inland shipping is the term used to cover inland international shipping, *i.e.*, shipping between Canadian and United States ports on the Great Lakes and international rivers and on lakes and rivers accessible to shipping from United States ports such as the Ottawa, Rideau, Trent, etc. Ferriage is, however, excluded from this and other classes of shipping. Coastwise shipping or the coasting trade covers shipping between one Canadian port and another on the Atlantic coast, on the Pacific coast and on the inland international lakes and rivers or lakes and rivers accessible to them. It does not, however, include shipping on isolated Canadian waterways such as the Mackenzie river, lake Winnipeg, lake St. John, etc.

Whereas, in the case of most countries of such an extensive coast line, the ocean shipping is much the more important, in Canada, shipping on inland waters, while finally dependent to a large extent on ocean traffic to foreign ports, shares, almost equally with that on the Atlantic and Pacific oceans the attention devoted to water traffic. The Great Lakes are among the leading highways of the international trade of the world; consequently the statistics of inland international shipping are included with those of sea-going shipping in Table **50,** while those of sea-going shipping alone will be found in Table **51.**

50.—Sea-going and Inland Vessels (exclusive of Coasting Vessels and Ferriage) Arrived at and Departed from Canadian Ports, fiscal years ended June 30, 1901-1906, and Mar. 31, 1907-1930.

Note.—For the years 1868-1900, see Canada Year Book, 1911, P. 380.

Fiscal Year.	British.		Canadian.		Foreign.		Total Tonnage.
	No.	Tons Register.	No.	Tons. Register.	No.	Tons Register.	
1901	4,319	6,694,133	30,211	8,540,089	33,302	10,795,586	26,029,808
1902	4,363	6,865,924	33,202	9,654,528	40,148	13,504,952	30,025,404
1903	4,647	7,753,788	31,534	10,482,940	53,545	15,418,315	33,655,043
1904	4,997	8,045,817	30,934	9,955,290	35,739	13,201,098	31,202,205
1905	4,614	8,034,652	29,729	11,047,447	35,647	13,195,721	32,277,820
1906	5,104	9,059,453	32,239	11,241,915	37,644	14,430,804	34,732,172
1907 (9 mos.)	4,488	7,576,721	30,654	11,582,409	25,263	11,436,761	30,595,891
1908	6,356	10,329,515	28,795	11,717,846	40,461	17,527,670	39,575,031
1909	5,795	10,405,370	29,247	13,805,790	38,677	16,490,443	40,701,603
1910	5,780	11,038,709	28,635	15,680,534	41,650	17,848,748	44,567,991
1911	6,870	12,712,337	29,670	16,380,146	40,892	18,337,062	47,429,545
1912	6,766	13,342,929	27,949	18,069,983	45,399	21,560,215	52,973,127
1913	7,307	13,896,353	42,624	20,677,938	47,303	23,275,492	57,849,783
1914	7,418	15,711,849	30,234	17,026,121	55,835	29,181,513	61,919,483
1915	6,949	13,931,091	29,359	17,504,751	48,635	22,168,311	53,604,153
1916	6,817	12,417,944	37,900	17,372,836	75,411	27,930,318	57,721,098
1917	7,387	16,144,873	39,978	20,290,252	74,850	29,277,419	65,712,544
1918	7,337	16,959,790	34,786	19,890,461	70,781	29,952,237	66,802,488
1919	6,099	14,054,166	37,023	17,567,061	52,273	21,607,821	53,229,048
1920	5,511	12,320,994	37,388	16,869,619	52,827	20,302,920	49,493,533
1921	4,526	10,545,619	39,877	22,236,692	50,370	21,866,049	54,648,630
1922	4,239	10,471,403	36,679	20,029,572	61,114	26,164,278	56,665,253
1923	4,869	13,868,905	59,364	26,423,287	87,199	32,110,991	72,403,183
1924	5,187	15,158,994	53,945	28,216,588	80,700	31,571,791	74,947,373
1925	5,763	16,463,204	44,432	26,620,979	84,084	34,854,868	77,939,051
1926	6,515	17,749,067	34,010	23,149,028	55,109	34,348,732	75,246,827
1927	6,448	18,117,525	34,015	25,692,591	62,344	33,521,543	77,331,659
1928	6,253	18,738,027	38,497	28,453,951	67,771	36,611,819	83,803,797
1929	6,400	21,625,660	39,038	29,792,258	75,745	42,317,309	93,735,227
1930	5,634	20,171,383	40,251	29,137,798	107,925	40,129,608	89,438,789

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[1] The tables in Sections 1-4 following have been compiled or revised from the Shipping Report of the Department of National Revenue for the fiscal year ended Mar. 31, 1930.

Section 1.—Ocean Shipping.

Canadian ocean shipping dates back to the days of early European fishermen who frequented the shores of Newfoundland and the Maritime Provinces. Ocean-going vessels of that time were crude wooden sailing craft of but 20 or 30 tons burden, to be entrusted only to skilful and hardy mariners for navigation through nearly unknown seas. Later exploration and settlement produced a larger volume of traffic, but it was not until the building of ships in Canada by the French assumed some dimensions that traffic became important. The first ocean-going vessels in Canada were probably built by Pont-Gravé, one of the first settlers in New France, and soon afterwards Talon and Hocquart, intendants of the colony, realizing the advantages offered to the industry by the timber resources available, gave it every encouragement. Shipyards were established at Quebec and other points along the St. Lawrence, and these, together with later establishments in the Maritime Provinces and on the western coast, have formed the principal bases of Canadian shipping on the Atlantic and the Pacific.

Canadian shipping attained some prominence in the days of fast wooden sailing vessels, and also at a later date when steam power first came into use. In 1833 the *Royal William,* a Canadian ship built to ply between Quebec and Halifax, crossed the Atlantic from Pictou to London, the first vessel to navigate the Atlantic under steam power. A few years later Samuel Cunard established the well-known steam-ship line of that name. His company pursued a conservative course; wooden ships were used long after iron hulls were a proven success, and paddle wheels after the introduction of the screw propeller. By 1867 the company's business had shifted to New York, and its terminal was moved thither from Halifax. The Allan line had a somewhat similar early history, but remained a purely Canadian company. In addition to other lines of less importance, both the C.P.R. and the Dominion Government operate fleets on the Atlantic and the Pacific oceans.

In the following tables statistics are given of sea-going vessels entered and cleared at Canadian ports during the fiscal years from 1901 to 1930 (Table **51**); of the nationalities, tonnage of freight carried, and number of crew of vessels entered and cleared at Canadian ports in the fiscal years ended 1929 and 1930 (Table **52**); of entrances and clearances of sea-going ships at the principal ports (Table **57**); and of the countries whence arrived and to which departed (Table **53**). The number and particularly the tonnage of vessels entered and cleared at Canadian ports in both ocean and coasting trade, indicate clearly the predominance of British and Canadian shipping over that of all other nations. This is particularly the case on the Atlantic coast, where the bulk of our European and South American trade is handled. The figures in Table **51** show a significant and fairly steady expansion in the total of ocean shipping through Canadian ports since the beginning of the century.

51.—Sea-going Vessels Entered and Cleared at Canadian Ports with Cargo and in Ballast, fiscal years ended June 30, 1901-1906, and Mar. 31, 1907-1930.

NOTE.—For corresponding figures for the years 1868-1900, see Canada Year Book, 1911, p. 379.

Fiscal Year.	British.		Canadian.		Foreign.		Total Tonnage.
	No.	Tons Register.	No.	Tons Register.	No.	Tons Register.	
1901	4,319	6,694,133	9,910	1,677,138	12,476	6,171,791	14,543,062
1902	4,363	6,865,924	11,413	1,937,227	14,530	5,928,237	14,731,488
1903	4,647	7,753,788	11,282	2,085,568	12,403	6,001,819	15,841,175
1904	4,997	8,045,817	11,045	1,979,803	14,002	5,801,085	15,826,705
1905	4,614	8,034,652	11,279	2,269,834	11,904	5,283,969	15,588,455
1906	5,104	9,059,453	12,201	2,304,942	12,511	5,479,034	16,843,429
1907 (9 mos.)	4,488	7,576,721	7,880	1,899,141	8,107	4,429,012	13,904,874
1908	6,356	10,329,515	10,562	2,606,660	12,886	6,555,096	19,491,271
1909	5,795	10,405,370	10,946	2,806,278	13,441	6,554,228	19,765,876
1910	5,780	11,038,709	10,875	3,498,361	13,147	6,267,243	20,804,313
1911	6,870	12,712,337	10,607	3,341,998	12,467	6,242,851	22,297,186
1912	6,766	13,342,929	10,966	4,618,163	15,134	6,628,513	24,589,605
1913	7,307	13,896,353	11,810	4,530,835	16,549	7,803,910	26,231,098
1914	7,418	15,711,849	12,786	5,160,799	15,811	8,695,838	29,568,486
1915	6,949	13,931,091	11,903	4,005,011	15,060	7,466,484	25,402,586
1916	6,817	12,417,944	12,386	3,894,731	18,559	8,514,975	24,827,650
1917	7,387	16,144,873	12,241	4,343,448	18,500	8,778,753	29,267,074
1918	7,337	16,959,790	10,998	4,343,853	16,597	11,483,484	32,787,127
1919	6,099	14,054,166	11,115	3,758,528	15,132	7,448,699	25,261,393
1920	5,511	12,320,994	11,994	4,434,634	17,353	8,489,126	25,244,754
1921	4,526	10,545,619	12,490	5,510,484	17,624	8,860,626	24,916,729
1922	4,239	10,471,403	14,929	6,861,202	17,170	10,261,865	27,594,470
1923	4,869	13,868,905	16,693	7,463,809	17,493	12,945,623	34,278,337
1924	5,187	15,158,994	16,778	7,698,045	16,795	14,161,363	37,018,402
1925	5,763	16,463,204	17,779	7,966,193	17,314	16,551,629	40,981,026
1926	6,515	17,749,067	17,906	9,703,054	18,117	18,202,875	45,654,996
1927	6,448	18,117,525	16,746	8,926,138	19,111	19,106,106	46,149,769
1928	6,253	18,738,027	16,716	9,021,264	18,561	20,455,343	48,214,634
1929	6,400	21,625,660	18,005	9,235,036	21,021	23,547,831	54,408,527
1930	5,634	20,171,383	18,145	9,673,948	19,689	23,146,901	52,992,232

52.—Details, by Nationality, of Sea-going Vessels (exclusive of Coasting Vessels) Entered and Cleared at Canadian Ports during the fiscal years ended Mar. 31, 1929 and 1930.

Nationality.	Number of Vessels.	Tons Register.	Freight.		Number of Crew.
			Tons Weight.	Tons Measurement.	
1929.					
ENTERED.					
British	3,174	11,239,915	1,721,394	292,701	278,452
Canadian	8,931	4,657,067	1,584,531	15,040	184,839
Foreign	10,426	11,567,176	3,483,262	58,202	283,102
Totals	**22,531**	**27,464,158**	**6,789,187**	**365,943**	**746,393**
CLEARED.					
British	3,226	10,385,745	7,855,712	578,988	238,685
Canadian	9,074	4,577,969	1,629,379	204,653	184,476
Foreign	10,595	11,980,655	7,255,332	520,562	287,440
Totals	**22,895**	**26,944,369**	**16,740,423**	**1,304,203**	**710,601**
TOTALS, ENTERED AND CLEARED.					
British	6,400	21,625,660	9,577,106	871,689	517,137
Canadian	18,005	9,235,036	3,213,910	219,693	369,315
Foreign	21,021	23,547,831	10,738,594	578,764	570,542
Totals	**45,426**	**54,408,527**	**23,529,610**	**1,670,146**	**1,456,994**

52.—Sea-going Vessels (exclusive of Coasting Vessels) Entered and Cleared at Canadian Ports during the fiscal years ended Mar. 31, 1929 and 1930—concluded.

Nationality.	Number of Vessels.	Tons Register.	Freight. Tons Weight.	Freight. Tons Measurement.	Number of Crew.
1930.					
ENTERED.					
British	2,858	10,724,845	2,317,220	247,496	273,078
Canadian	8,926	4,829,904	1,699,180	32,365	185,980
Foreign	9,799	11,601,017	4,109,950	64,896	288,879
Totals	**21,583**	**27,155,766**	**8,126,350**	**344,757**	**747,937**
CLEARED.					
British	2,776	9,446,538	4,424,814	1,217,126	228,501
Canadian	9,219	4,844,044	1,295,855	143,736	185,902
Foreign	9,890	11,545,884	4,701,007	511,051	283,721
Totals	**21,885**	**25,836,466**	**10,421,676**	**1,871,913**	**698,124**
TOTALS, ENTERED AND CLEARED.					
British	5,634	20,171,383	6,742,034	1,464,622	501,579
Canadian	18,145	9,673,948	2,995,035	176,101	371,882
Foreign	19,689	23,146,901	8,810,957	575,947	572,600
Totals	**43,468**	**52,992,232**	**18,548,026**	**2,216,670**	**1,446,061**

53.—Sea-going Vessels Entered and Cleared, by Principal Countries, fiscal year ended Mar. 31, 1930.

VESSELS ENTERED INWARDS.

Country Whence Arrived.	British. No. of Vessels.	British. Tons Register.	British. Crew, No.	Canadian. No. of Vessels.	Canadian. Tons Register.	Canadian. Crew, No.	Foreign. No. of Vessels.	Foreign. Tons Register.	Foreign. Crew, No.
Great Britain	948	5,536,853	156,183	30	82,159	1,061	102	203,133	3,108
Australia	44	267,825	7,025	14	51,939	581	6	16,836	182
Hong Kong	17	111,755	1,770	1	8,883	545	5	21,875	472
British West Indies	41	36,122	648	212	536,659	12,374	144	167,551	3,350
Newfoundland	633	513,531	19,588	241	193,932	5,270	235	387,023	5,756
New Zealand	27	146,424	2,991	20	67,455	809	3	10,620	101
Other Br. possessions	58	201,756	3,015	–	–	–	16	35,382	426
Argentina	13	35,955	446	17	63,097	704	22	65,074	685
Belgium	64	507,646	14,711	38	123,641	1,568	62	227,943	2,723
China	45	198,716	3,130	4	24,826	1,199	53	251,522	4,141
Colombia	8	41,842	292	14	74,022	579	18	104,005	752
Denmark	–	–	–	–	–	–	69	358,679	12,397
France	30	202,026	5,348	–	–	–	57	217,037	4,884
Germany	33	269,178	7,778	–	–	–	143	723,372	16,240
Holland	28	146,469	1,712	1	2,603	40	82	449,938	8,840
Italy	15	46,815	510	1	4,184	45	47	178,391	1,963
Japan	98	422,195	9,818	27	214,254	12,692	265	1,204,746	17,920
Mexico	2	3,412	50	5	237	29	1	69	6
Norway	–	–	–	–	–	–	37	203,579	5,558
Peru	6	28,959	238	22	114,804	889	13	49,479	453
St. Pierre	34	4,303	286	195	22,771	2,057	43	26,694	935
Spain	4	7,557	112	4	2,111	25	9	21,575	304
Sweden	–	–	–	–	–	–	40	294,655	8,629
United States	527	1,793,256	32,800	5,681	3,096,008	123,289	6,435	6,049,814	161,304
Sea fisheries	88	5,345	1,241	2,314	104,260	21,358	1,786	120,886	24,227
From Sea	42	38,634	1,462	75	3,641	461	49	18,888	1,506
Totals[1]	**2,858**	**10,724,845**	**273,078**	**8,926**	**4,829,904**	**185,980**	**9,799**	**11,601,017**	**288,879**

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[1] Include other countries not specified.

53.—Sea-going Vessels Entered and Cleared, by Principal Countries, fiscal year ended Mar. 31, 1930.—concluded.

VESSELS CLEARED OUTWARDS.

Country to Which Departed.	British.			Canadian.			Foreign.		
	No. of Vessels.	Tons Register.	Crew, No.	No. of Vessels.	Tons Register.	Crew, No.	No. of Vessels.	Tons Register.	Crew, No.
Great Britain	888	4,712,432	114,526	35	109,064	1,329	187	509,973	6,222
Australia	71	365,396	8,191	17	63,726	720	19	56,511	661
British South Africa	32	122,441	1,624	-	-	-	6	20,447	224
British West Indies	19	27,138	412	141	260,212	5,738	83	105,512	1,984
Newfoundland	667	533,874	18,230	337	197,656	5,449	238	400,123	5,877
New Zealand	11	70,202	1,986	27	88,572	1,117	12	42,634	402
British Guiana	2	1,290	31	54	180,767	4,006	24	30,032	553
Hong Kong	24	183,009	5,194	11	97,243	5,999	4	14,600	141
Other Br. possessions	20	67,219	775	7	17,619	250	11	26,475	328
Argentina	2	6,101	111	7	30,630	776	23	74,242	757
Belgium	43	121,846	1,942	11	27,877	399	41	114,601	1,393
China	17	72,465	1,060	3	25,224	1,140	61	251,482	2,959
Colombia	10	46,942	375	15	80,327	637	23	63,502	739
Cuba	10	20,560	428	4	2,240	59	40	80,714	2,042
Denmark	1	790	16	-	-	-	21	88,680	2,006
France	39	272,029	8,655	1	587	21	70	221,044	2,984
Germany	13	61,058	1,101	2	4,789	70	116	444,671	6,764
Greece	11	27,087	346	-	-	-	16	41,422	497
Holland	32	97,236	1,156	-	-	-	49	156,429	1,827
Italy	25	71,714	823	1	2,601	39	71	231,194	2,529
Japan	20	116,510	3,310	14	107,730	6,137	353	1,610,626	24,038
Mexico	-	-	-	15	9,867	195	1	3,237	41
Norway	-	-	-	-	-	-	17	62,512	1,302
Peru	4	21,988	167	16	79,414	646	8	23,558	268
St. Pierre and Miquelon	23	1,657	134	190	62,935	2,968	22	12,757	433
Sweden	-	-	-	-	-	-	25	132,516	3,222
United States	623	2,330,476	52,735	5,774	3,186,305	123,265	5,813	6,490,389	182,593
Sea Fisheries	110	7,460	1,640	2,469	104,857	22,250	2,346	141,844	27,757
For Sea	46	46,629	2,961	30	510	121	160	19,086	2,022
Totals[1]	**2,776**	**9,446,538**	**228,501**	**9,219**	**4,844,044**	**185,902**	**9,890**	**11,545,884**	**283,721**

[1] Include other countries not specified.

Section 2.—Inland Shipping.

Inland shipping is associated in its beginnings with the birch-bark canoe of the American Indian. The advantages of this light and easily navigable boat were realized by explorers and fur traders, and for many years it was in general use, giving way to more substantial craft only with the demands of heavier traffic. The *bateau* and Durham boat came into common use after the migration of the U.E. Loyalists, and, on the St. Lawrence and the other main highways of the time, they also soon gave place to larger vessels. Original plans of the Lachine canal, which called for a width of 12 feet and a depth of 18 inches, afford an illustration of the size of these primitive craft.

In the absence of any roads to make land travel possible, the St. Lawrence river and the Great Lakes formed the main highway to the interior. The route from Montreal to the Upper Lakes was broken at three places—from Montreal to Kingston transportation was by *bateau* or Durham boat, from Kingston to Queenston schooners were used, then there was the portage road from Queenston to Chippawa and, finally, schooner again to the destination. The charge for transporting a barrel of rum from Montreal to Kingston was from $3 to $3.50, and freight charges on other goods were proportions of this standard rate.

In 1809, the *Accommodation*, the first Canadian steamship, was built for the Hon. John Molson, to run between Montreal and Quebec. By 1818 Molson had formed a company, the St. Lawrence Steamship Company or the Molson Line. On lake Ontario, the *Frontenac*, beginning with 1817, was used on a weekly service between York and Prescott, and following this beginning came a period of great activity in lake and river shipping. In 1845, the *Gore* reached lake Huron by way of the Welland canal to carry on transport trade on the Upper Lakes, where previously there had not been enough traffic to support a large ship. Shipping on the Upper Lakes became brisker now, for there were settlers to be carried from Buffalo to the western United States and grain to be brought back. In this period Canadian shipping made its profit by carrying American goods, for there was little traffic originating in the Canadian near-West.

With the advent of steam railways water-borne traffic was not decreased but on the contrary, increased, and at present the greater part of the western grain is shipped *via* the Great Lakes route to eastern ports and the iron ore and coal traffic between lake Superior and lake Erie ranges between 60 and 80 million short tons per annum; the total traffic on these upper lakes alone is greater than that carried by all Canadian railways and about one-twelfth of that carried by all United States railways.

Inland International Shipping.—Statistics of the inland international shipping between Canadian and United States ports for the fiscal years ended Mar. 31, 1926-1930, exclusive of ferriage, are given in Table **54.** The total tonnages of inland international shipping entered and cleared in the fiscal years 1920-1930, were as follows:—1920, 24,248,779; 1921, 29,731,901; 1922, 29,070,783; 1923, 38,124,846; 1924, 37,928,971; 1925, 36,958,025; 1926, 29,591,831; 1927, 31,181,890; 1928, 35,589,163; 1929, 39,326,700; 1930, 36,446,557.

54.—Canadian and United States Shipping on Rivers and Lakes between Canadian and United States Ports, exclusive of Ferriage, fiscal years ended Mar. 31, 1926-1930.

Item.	1926.	1927.	1928.	1929.	1930.
Vessels Arrived—					
Canadian—					
Steam and motor No.	7,212	7,919	9,946	9,677	9,285
Tons register	6,128,817	7,933,752	8,689,990	9,496,259	9,183,401
Number of crew	252,450	255,678	276,095	280,107	271,221
Sail No.	670	490	330	270	1,276
Tons register	236,707	150,331	101,618	57,077	72,227
Number of crew	3,391	1,968	1,380	1,093	2,080
United States—					
Steam and motor No.	17,028	19,718	23,769	26,261	42,989
Tons register	7,369,366	6,242,647	7,609,732	8,921,588	8,010,012
Number of crew	162,788	157,202	179,096	196,118	261,251
Sail No.	1,130	1,749	1,028	1,112	1,192
Tons register	382,209	535,366	344,292	512,827	284,945
Number of crew	3,522	3,999	2,993	4,604	2,758
Description of vessels—					
Steam, screw No.	22,561	25,864	12,818	25,395	39,806
Steam, paddle "	1,670	1,538	2,008	2,013	1,630
Steam, sternwheel "	9	235	9	9	9
Motor[1] "	-	-	18,880	8,522	10,829
Sail "	204	141	97	83	43
Sail, barges "	1,596	2,098	1,261	1,298	2,425
Vessels Departed—					
Canadian—					
Steam and motor No.	7,582	8,315	11,157	10,855	9,894
Tons register	6,848,899	8,520,689	10,550,279	10,952,282	10,133,814
Number of crew	255,847	258,618	282,831	297,325	283,083
Sail No.	640	545	348	231	1,651
Tons register	231,551	161,681	90,800	51,604	74,408
Number of crew	3,388	2,175	1,453	843	2,496
United States—					
Steam and motor No.	17,489	19,915	23,239	26,135	42,807
Tons register	7,987,121	7,102,418	7,834,436	8,816,991	8,389,248
Number of crew	164,329	166,775	195,173	212,840	263,265
Sail No.	1,345	1,851	1,174	1,216	1,248
Tons register	407,161	535,006	368,016	518,072	298,502
Number of crew	4,160	4,133	3,342	5,210	2,932
Description of vessels—					
Steam and motor, screw No.	23,422	26,491	13,973	26,261	40,194
Steam and motor, paddle "	1,640	1,506	1,989	1,997	1,715
Steam and motor, sternwheel "	9	233	9	9	9
Motor[1] "	-	-	18,425	8,723	10,783
Sail "	219	146	146	74	36
Sail, barges "	1,766	2,250	1,376	1,373	2,863

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[1] Not separated from steamers prior to 1928.

Section 3.—Coasting Trade.

Statistics of the arrivals and departures of the vessels engaged in the coasting trade of Canada, whether on the sea or the Great Lakes and international rivers, are given in Table **55.** This statement does not include vessels plying on inland waterways inaccessible to international shipping nor does it include ferry services between one Canadian port and another.

55.—British and Foreign Vessels Employed in the Coasting Trade of Canada, fiscal years ended Mar. 31, 1926-1930.

Item.	1926.	1927.	1928.	1929.	1930.
Vessels Arrived—					
British—					
Steam and motor.....No.	76,454	79,009	83,371	83,714	74,170
Tons register	37,319,725	38,613,812	40,893,914	43,810,823	39,332,171
Number of crew	1,535,390	1,568,799	1,777,703	1,656,274	1,552,640
Sail.....No.	11,443	12,161	10,798	10,574	7,364
Tons register	3,772,114	3,723,565	3,530,357	4,195,107	3,555,731
Number of crew	46,126	56,119	56,562	39,975	31,558
Foreign—					
Steam and motor.....No.	656	916	707	670	596
Tons register	610,509	736,194	924,691	1,019,911	763,632
Number of crew	10,825	14,642	15,740	15,765	13,746
Sail.....No.	140	136	105	89	75
Tons register	68,132	51,348	32,624	20,747	15,332
Number of crew	719	632	581	440	309
Description of vessels—					
Steam, screw.....No.	72,165	75,193	72,904	70,520	61,246
Steam, paddle..... "	3,775	3,381	2,994	2,560	2,292
Steam, sternwheel..... "	1,170	1,351	1,557	947	272
Motor[1]..... "	–	–	6,623	10,357	10,956
Sail, ships..... "	518	1	5,938	5,101	3,204
Sail, barks..... "	2	1,118			
Sail, brigantines..... "	5	–			
Sail, schooners..... "	6,107	6,660			
Sail, sloops, barges canal boats, etc..... "	4,951	4,518	4,965	5,562	4,235
Vessels Departed—					
British—					
Steam and motor.....No.	76,131	78,127	83,197	82,680	74,323
Tons register	36,952,466	38,422,848	40,008,995	43,076,773	39,653,349
Number of crew	1,582,646	1,585,907	1,763,783	1,741,032	1,556,378
Sail.....No.	10,985	11,663	10,530	10,460	7,195
Tons register	3,621,407	3,653,974	3,300,910	4,097,105	3,591,010
Number of crew	44,562	50,286	50,118	40,677	30,708
Foreign—					
Steam and motor.....No.	584	883	842	626	600
Tons register	471,235	497,773	813,315	809,051	808,220
Number of crew	9,434	12,812	16,793	15,085	12,915
Sail.....No.	178	141	145	139	79
Tons register	72,067	42,872	22,810	24,168	15,328
Number of crew	753	491	422	481	284
Description of vessels—					
Steam, screw.....No.	71,748	74,289	72,754	69,474	61,214
Steam, paddle..... "	3,800	3,384	2,982	2,589	2,230
Steam, sternwheel..... "	1,167	1,337	1,551	955	323
Motor[1]..... "	–	–	6,752	10,288	11,156
Sail, ships..... "	490	10	5,703	4,806	2,948
Sail, barks..... "	1	1,232			
Sail, brigantines..... "	2	–			
Sail, schooners..... "	5,843	6,256			
Sail, sloops, barges, canal boats, etc..... "	4,827	4,306	4,972	5,793	4,326

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[1] Not separated from steamers prior to 1928.

Section 4.—Grand Total Shipping Trade.

A statement is given in Table **56** showing sea-going, coastwise, inland and total vessels entered and cleared at Canadian ports, by provinces, during the fiscal year ended Mar. 31, 1930, and totals for the fiscal years 1923 to 1930.

It is noteworthy in this table that the volume of coastwise shipping is the greatest while sea-going is next in tonnage. In the period covered since 1923, both sea-going and coastwise shipping have shown a trend of marked expansion. Inland international shipping, on the other hand, has varied considerably from year to year without showing any definite trend. It is, however, significant of the importance of water-borne traffic on the inland rivers and lakes that the total tonnage of shipping entered and cleared was greater for Ontario ports than those of any other province in the fiscal year ended 1930. This was due to the fact that the great bulk of the inland international shipping was through Ontario ports, while there was also a large tonnage of coasting trade through these ports. British Columbia was next to Ontario in total shipping, followed by Quebec and Nova Scotia.

56.—Total Number and Tonnage of All Vessels[1] Entered and Cleared at Canadian Ports, by Provinces, during the fiscal year ended Mar. 31, 1930, with Totals for the fiscal years ended 1923-1930.

Province.	Sea-going.				Coastwise.			
	Arrived.		Departed.		Arrived.		Departed.	
	Vessels.	Tons Register.	Vessels.	Tons Register.	Vessels.	Tons Register.	Vessels.	Tons Register.
Nova Scotia	4,833	6,506,236	5,285	6,929,941	16,719	3,907,039	16,476	3,111,710
Prince Edward Island	57	35,403	98	78,727	893	256,432	865	222,156
New Brunswick	4,888	1,509,466	4,708	1,196,930	3,501	645,347	3,722	941,602
Quebec	1,571	6,677,095	1,373	5,130,976	9,858	10,109,594	10,042	11,477,007
Ontario	–	–	–	–	13,690	13,310,650	13,067	12,376,011
Manitoba	1	1,115	1	1,115	1	64	1	64
British Columbia	10,233	12,426,451	10,420	12,498,777	37,310	15,295,903	37,796	15,797,909
Yukon	–	–	–	–	233	141,837	228	141,448
Totals, 1930	**21,583**	**27,155,766**	**21,885**	**25,836,466**	**82,205**	**43,666,866**	**82,197**	**44,067,907**
Totals, 1929	**22,531**	**27,464,158**	**22,895**	**26,944,369**	**95,047**	**49,046,588**	**93,905**	**48,007,097**
Totals, 1928	**20,903**	**24,240,847**	**20,627**	**23,973,787**	**94,981**	**45,381,586**	**94,714**	**44,146,030**
Totals, 1927	**21,382**	**23,224,281**	**20,923**	**22,925,488**	**92,222**	**43,124,919**	**90,814**	**42,617,467**
Totals, 1926	**21,185**	**22,837,720**	**21,353**	**22,817,276**	**88,693**	**41,770,480**	**87,878**	**41,117,175**
Totals, 1925	**20,436**	**20,470,379**	**20,420**	**20,510,647**	**87,185**	**40,480,372**	**87,091**	**40,139,447**
Totals, 1924	**19,261**	**18,497,025**	**19,499**	**18,521,377**	**88,035**	**39,268,712**	**84,762**	**38,096,416**
Totals, 1923	**19,462**	**17,095,883**	**19,593**	**17,182,454**	**82,560**	**36,240,041**	**80,033**	**34,730,037**

Province.	Inland International.				Totals.			
Nova Scotia	–	–	–	–	21,552	10,413,275	21,761	10,041,651
Prince Edward Island	–	–	–	–	950	291,835	963	300,883
New Brunswick	–	–	–	–	8,389	2,154,813	8,430	2,138,532
Quebec	1,338	1,001,500	1,523	1,171,455	12,767	17,788,189	12,938	17,779,438
Ontario	53,344	16,540,934	54,013	17,716,322	67,034	29,851,584	67,080	30,092,333
Manitoba	–	–	–	–	2	1,179	2	1,179
British Columbia	43	1,794	43	1,818	47,586	27,724,148	48,259	28,298,504
Yukon	17	6,357	21	6,377	250	148,194	249	147,825
Totals, 1930	**54,742**	**17,550,585**	**55,600**	**18,895,972**	**158,530**	**88,373,217**	**159,682**	**88,800,345**
Totals, 1929	**37,320**	**18,987,751**	**38,437**	**20,338,949**	**154,898**	**95,498,497**	**155,237**	**95,290,415**
Totals, 1928	**35,073**	**16,745,632**	**35,918**	**18,843,531**	**150,957**	**86,368,065**	**151,259**	**86,963,348**
Totals, 1927	**29,876**	**14,862,096**	**30,626**	**16,319,794**	**143,480**	**81,211,296**	**142,363**	**81,862,749**
Totals, 1926	**26,040**	**14,117,099**	**27,056**	**15,474,732**	**135,918**	**78,725,299**	**136,287**	**79,409,183**
Totals, 1925	**46,412**	**17,616,105**	**47,011**	**19,341,920**	**154,033**	**78,566,856**	**154,522**	**79,992,014**
Totals, 1924	**50,314**	**18,926,976**	**50,758**	**19,001,995**	**157,610**	**76,692,713**	**155,019**	**75,619,788**
Totals, 1923	**55,958**	**18,864,448**	**56,419**	**19,260,398**	**157,980**	**72,200,372**	**156,045**	**71,172,889**

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[1] Exclusive of ferriage.

The relative volume of shipping in the leading ports of the provinces of Canada is shown in Table 57. Details are given of the sea-going vessels and of the total of all shipping (exclusive of ferriage) arrived and departed at each port. In the fiscal year ended Mar. 31, 1930, the tonnage of sea-going vessels arriving and departing at Vancouver exceeded that at any other port in Canada, while Halifax was next, followed by Montreal and Victoria which were almost equal. In total shipping, which included coastwise and inland international as well as seagoing shipping, Vancouver was considerably in the lead, followed by Montreal, Victoria and Halifax.

57.—Number and Tonnage of Sea-going and of All Vessels Entered and Cleared at the Principal Ports of Canada, fiscal year ended Mar. 31, 1930.

NOTE.—For details of coastwise and inland international shipping for these ports and for all other ports of Canada, see the Shipping Report of the Departmental of National Revenue for the fiscal year ended Mar. 31, 1930.

Province and Port.	Sea-going Vessels.				Total Shipping.			
	Arrived.		Departed.		Arrived.		Departed.	
	Vessels.	Tons Register.	Vessels.	Tons Register.	Vessels.	Tons Register.	Vessels.	Tons Register.
Prince Edward Island—								
Charlottetown	29	29,021	58	63,176	639	206,079	646	215,129
Nova Scotia—								
Baddeck	17	17,754	22	19,988	526	65,630	528	65,203
Canso	68	8,604	69	7,668	1,842	191,146	1,874	188,917
Digby	31	1,806	36	1,856	609	216,515	618	216,462
Halifax	1,525	4,453,521	1,760	4,718,297	3,834	5,148,986	3,850	4,857,986
Louisburg	91	38,524	112	69,385	398	130,393	406	127,842
North Sydney	809	382,899	818	391,829	1,471	673,174	1,510	676,810
Parrsboro	96	37,981	113	49,574	554	91,948	559	91,056
Pictou	9	7,091	19	15,191	619	179,132	612	176,775
Port Mulgrave	–	–	5	4,014	1,196	114,435	1,196	115,601
Sydney	296	615,861	365	738,234	1,261	1,916,174	1,267	1,930,234
Windsor	160	232,045	182	242,185	347	296,875	351	298,546
Yarmouth	392	437,206	355	353,698	853	471,676	862	393,190
New Brunswick—								
Saint John	809	1,325,103	667	969,683	2,633	1,732,645	2,646	1,717,045
Quebec—								
Chicoutimi	6	11,591	–	–	105	127,781	108	129,697
Gaspé	26	34,660	31	39,872	120	114,170	113	118,315
Lévis	4	8,770	1	4,414	83	218,217	73	217,195
Montreal	901	3,846,525	920	3,856,296	6,276	8,367,717	6,341	8,382,164
Port Alfred	44	84,428	22	51,857	195	392,135	192	391,954
Port Menier	–	–	–	–	3	912	3	912
Quebec	460	2,446,478	216	871,643	2,315	4,400,046	2,347	4,385,838
Rimouski	5	6,275	73	85,787	536	205,110	539	202,871
Sorel	5	10,533	3	846	755	1,515,676	767	1,516,021
Three Rivers	56	194,187	56	194,187	1,708	2,220,175	1,704	2,208,056
Ontario—								
Amherstburg	–	–	–	–	5,339	714,490	5,297	670,541
Belleville	–	–	–	–	115	65,393	115	65,393
Brockville	–	–	–	–	819	507,568	819	507,568
Byng Inlet	–	–	–	–	–	–	–	–
Cobourg	–	–	–	–	724	2,330,332	723	2,316,851
Collingwood	–	–	–	–	77	102,434	80	100,572
Cornwall	–	–	–	–	142	93,559	140	92,066
Depot Harbour	–	–	–	–	139	299,941	139	307,556
Erieau	–	–	–	–	–	–	–	–
Fort William	–	–	–	–	1,237	3,043,518	1,160	2,913,236
Goderich	–	–	–	–	91	141,352	101	187,104
Gore Bay	–	–	–	–	179	67,577	181	70,935
Hamilton	–	–	–	–	902	759,176	661	614,299
Kingston	–	–	–	–	2,136	964,442	2,149	1,004,217
Little Current	–	–	–	–	225	149,349	227	154,482
Midland	–	–	–	–	244	534,199	252	585,809
Niagara Falls	–	–	–	–	2,346	1,934,447	2,226	1,933,073
Niagara	–	–	–	–	–	–	–	–
Owen Sound	–	–	–	–	344	313,247	349	335,140
Point Edward	–	–	–	–	–	–	–	–

57.—Number and Tonnage of Sea-going and of All Vessels Entered and Cleared at the Principal Ports of Canada, fiscal year ended Mar. 31, 1930—concluded.

Province and Port.	Sea-going Vessels.				Total Shipping.			
	Arrived.		Departed.		Arrived.		Departed.	
	Vessels.	Tons Register.	Vessels.	Tons Register.	Vessels.	Tons Register.	Vessels.	Tons Register.
Ontario—concluded.								
Port Arthur	–	–	–	–	1,188	2,570,086	1,315	3,114,686
Port Colborne	–	–	–	–	1,140	1,572,999	1,167	1,519,480
Port Dalhousie	–	–	–	–	–	–	–	–
Port Dover	–	–	–	–	477	138,385	427	137,906
Port McNicoll	–	–	–	–	213	541,425	213	561,451
Port Stanley	–	–	–	–	203	286,480	206	285,030
Prescott	–	–	–	–	965	713,523	948	703,484
Sandwich	–	–	–	–	4,075	342,143	4,079	340,185
Sarnia	–	–	–	–	19,237	3,934,068	19,268	3,973,789
Sault Ste. Marie	–	–	–	–	2,277	2,626,974	2,255	2,545,046
Thorold	–	–	–	–	102	107,313	101	106,099
Toronto	–	–	–	–	2,664	1,998,792	2,704	2,043,317
Walkerville	–	–	–	–	3,551	221,658	3,523	216,944
Wallaceburg	–	–	–	–	255	176,836	251	174,983
Welland	–	–	–	–	198	198,952	123	132,039
Windsor	–	–	–	–	829	1,032,315	803	1,013,920
British Columbia—								
Alert Bay	94	4,128	99	5,298	1,388	554,922	1,393	490,266
Anyox	17	4,741	40	39,344	555	326,585	552	328,697
Bamfield	30	1,592	35	2,972	609	137,320	614	129,516
Britannia Beach	109	153,132	108	156,857	773	321,098	761	317,209
Butedale	117	3,535	116	2,757	767	269,848	763	270,456
Chemainus	362	199,716	465	447,135	894	311,107	979	544,322
Ladysmith	109	49,874	147	42,071	1,922	831,139	1,943	818,338
Nanaimo	208	128,389	387	292,836	2,815	1,074,185	2,937	1,261,740
Nelson	–	–	–	–	–	–	–	–
New Westminster	424	870,392	409	864,541	2,257	1,444,228	2,343	1,450,260
Ocean Falls	53	93,166	69	157,166	1,098	717,458	1,104	746,767
Port Alberni	35	105,540	71	232,706	436	223,293	471	345,669
Powell River	168	189,837	164	203,858	2,045	818,665	2,055	1,058,296
Prince Rupert	2,406	202,455	2,401	200,240	4,068	967,570	4,113	951,401
Quatsino	68	60,754	62	74,416	231	186,433	234	184,982
Stewart	19	7,585	34	24,125	301	290,973	304	287,196
Sidney	604	228,680	556	179,697	1,145	432,464	1,143	398,374
Union Bay	61	76,571	114	222,457	954	291,473	1,008	427,473
Vancouver	2,504	5,706,094	2,304	5,694,993	17,791	11,294,207	17,925	11,245,600
Victoria	2,307	4,205,801	2,154	3,486,083	6,066	6,916,344	6,115	6,717,617

Section 5.—Shipping Constructed and on the Registry.

The shipbuilding industry in Canada dates from the earliest settlement of the country, and up till the 1870's was one of the leading industries of Quebec and of the Maritime Provinces, 490 vessels with a total tonnage of 183,010 being constructed in the calendar year 1874. At this time, however, the advent of the steel ship rendered the wooden vessels, the material for which was so abundant in Canada, obsolete, with the result that the tonnage built has never again reached the above figure, though in the fiscal years 1919 and 1920 the construction of the Canadian Government Merchant Marine, built as an extraordinary measure arising out of the war, raised the totals constructed to 104,444 and 164,074 tons respectively. Statistics of ships built and registered in Canada or sold to other countries are given in Table **58**. For further information on the shipbuilding industry, see Table **6** on pp. 428 and 429 of the present volume.

58.—Vessels Built and Registered in Canada and Vessels Sold to Other Countries, fiscal years ended June 30, 1901-1906, and Mar. 31, 1907-1930.

Note.—For 1874-1900, see Canada Year Book, 1911, p. 383. Statistics are from the Shipping Reports of the Department of National Revenue.

Fiscal Year.	Built.		Registered.		Sold to Other Countries.		
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	Value.
							$
1901	240	21,956	327	35,156	5	4,490	66,468
1902	260	28,288	316	34,236	27	11,360	235,865
1903	295	30,856	312	41,405	21	11,172	220,602
1904	214	28,397	243	33,192	11	7,208	87,115
1905	248	21,865	335	27,583	21	3,696	100,363
1906	323	18,724	420	37,639	45	9,487	187,725
1907 (9 months)	229	33,205	257	31,635	17	3,855	68,190
1908	361	49,928	357	78,144	28	4,515	132,900
1909	303	29,023	277	32,899	16	3,644	98,643
1910	264	24,059	220	33,383	14	5,047	133,800
1911	247	22,812	234	50,006	17	5,885	201,526
1912	326	31,065	302	30,021	18	4,265	140,350
1913	324	24,325	328	30,225	20	7,976	610,650
1914	289	46,887	230	46,909	27	8,258	169,618
1915	224	45,721	237	55,384	21	17,044	1,150,950
1916	167	13,497	325	102,239	21	4,529	192,575
1917	184	28,638	334	105,826	47	24,954	4,398,570
1918	216	53,912	336	70,350	63	25,252	5,330,850
1919	277	104,444	327	102,883	85	48,965	14,612,338
1920	352	164,074	459	237,022	68	53,407	17,819,477
1921	220	95,838	323	188,915	69	34,623	8,456,573
1922	143	78,409	228	131,732	35	25,462	3,399,450
1923	154	14,868	274	57,446	18	26,394	1,009,327
1924	160	20,336	194	74,311	21	17,076	605,211
1925	232	36,147	198	48,054	28	21,689	717,730
1926	247	39,840	218	88,380	27	24,673	1,413,150
1927	341	32,801	281	79,448	32	27,027	1,984,040
1928	236	12,904	417	64,301	31	16,307	599,490
1929	328	49,798	386	155,972	30	18,627	154,750
1930	282	28,871	468	84,529	34	33,779	805,636

The numbers and net tonnages of the vessels on the registry of Canada, as at the end of each of the calendar years from 1921 to 1930, are given by provinces in Table **59.** In 1930 there were 8,703 vessels with a tonnage of 1,410,432.

59.—Number and Net Tonnage of Vessels on the Registry of Shipping of Canada, by Provinces, Dec. 31, 1921-1930.

Note.—The figures in this table are supplied by the courtesy of the Department of Marine.

Province.	1921.		1922.		1923.		1924.		1925.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
P. E. Island	137	9,560	138	9,615	133	9,600	133	9,078	131	8,997
Nova Scotia	1,550	153,461	1,523	146,329	1,505	140,641	1,488	134,991	1,475	135,761
New Brunswick	859	40,456	866	39,107	873	38,798	808	34,644	818	33,318
Quebec	1,252	449,817	1,314	459,207	1,298	443,177	1,305	425,852	1,341	438,253
Ontario	1,681	306,944	1,693	316,524	1,677	317,850	1,649	314,297	1,667	326,571
Manitoba	86	9,599	91	10,340	93	10,207	93	10,207	93	10,207
Saskatchewan	5	447	4	813	6	486	6	486	6	486
British Columbia	1,908	252,876	2,006	259,103	2,101	268,489	2,198	289,549	2,373	327,524
Yukon Territory	4	813	6	486	8	1,632	9	1,916	9	1,916
Totals	**7,482**	**1,223,973**	**7,641**	**1,241,524**	**7,694**	**1,230,880**	**7,689**	**1,221,020**	**7,913**	**1,283,033**

59.—Number and Net Tonnage of Vessels on the Registry of Shipping of Canada, by Provinces, Dec. 31, 1921-1930—concluded.

Province.	1926.		1927.		1928.		1929.		1930.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
P. E. Island......	127	8,556	133	8,581	132	8,549	134	8,370	130	8,351
Nova Scotia.....	1,452	134,539	1,412	129,482	1,436	126,428	1,471	127,080	1,271	111,111
New Brunswick..	816	33,002	829	33,077	828	33,395	885	34,031	911	38,308
Quebec...........	1,369	447,889	1,368	456,092	1,373	502,224	1,265	506,594	1,262	492,607
Ontario..........	1,702	387,036	1,724	397,987	1,746	367,007	1,759	347,531	1,796	381,473
Manitoba........	94	10,321	96	10,661	98	10,684	103	11,051	105	11,185
Saskatchewan....	6	486	6	486	6	486	6	486	6	486
British Columbia	2,618	325,190	2,872	327,984	3,012	313,651	3,257	335,810	3,202	361,328
Yukon Territory.	9	1,916	14	3,650	14	3,650	19	4,543	20	5,584
Totals.......	**8,193**	**1,348,935**	**8,454**	**1,368,000**	**8,645**	**1,366,074**	**8,899**	**1,375,493**	**8,703**	**1,410,432**

Section 6.—The Department of Marine.[1]

Administration of the general shipping interests of Canada is in the hands of the Dominion Department of Marine. It deals with:—(1) administration of the Canada Shipping Act and other Acts of the Dominion Government relating to marine transportation; (2) pilotage; (3) the construction and maintenance of lighthouses, lightships, fog alarms, buoys and beacons; (4) ports, harbours, piers, wharves and breakwaters; (5) the Meteorological Service of Canada; (6) sick and distressed seamen, and the establishment, regulation and management of marine and seamen's hospitals; (7) river and harbour police; (8) inquiries into the causes of shipwrecks and casualties and the collection of wreck statistics; (9) the inspection of steamboats; (10) the construction and maintenance of the St. Lawrence River ship channel; (11) the maintenance of winter communication between Prince Edward Island and the mainland, and (12) the administration of government radiotelegraph stations and the supervision of private stations in Canada. The net revenue of the Department for the fiscal year ended Mar. 31, 1930, was $810,530, and the expenditure for the same period was $23,508,502.

A summary statement of the revenue and expenditure of the Department of Marine is given for each fiscal year since Confederation in Table **60**, while details for the six years from 1925 to 1930 are presented in Tables **61** and **62**.

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[1] Revised by E. Hawken, Assistant Deputy Minister, Department of Marine.

60.—Total Revenue and Expenditure of the Department of Marine, fiscal years ended June 30, 1868-1906, and Mar. 31, 1907-1930.

Fiscal Year.	Revenue.	Expenditure.	Fiscal Year.	Revenue.	Expenditure.	Fiscal Year.	Revenue.	Expenditure.[2]
	$	$		$	$		$	$
1868	71,811	371,071	1889	99,940	1,023,801	1910	156,957	4,692,771
1869	75,351	360,900	1890	115,507	807,417	1911	154,492	4,197,420
1870	71,490	367,189	1891	104,248	885,410	1912	185,579	4,911,141
1871	70,254	389,537	1892	106,582	861,427	1913	185,725	5,213,223
1872	79,324	518,958	1893	107,390	898,720	1914	217,034	5,828,027
1873	114,756	706,818	1894	165,870	905,654	1915	795,550[3]	6,202,908
1874	108,350	845,151	1895	99,557	895,828	1916	461,457	5,621,611
1875	91,235	844,586	1896	103,012	793,634	1917	574,498	4,768,784
1876	107,984	970,146	1897	111,009	867,773	1918	228,812	4,361,498
1877	105,907	820,054	1898	120,602	856,192	1919	396,779	4,459,165
1878	100,850	786,156	1899	126,528	1,102,602	1920	303,002	38,301,080
1879	84,144	755,359	1900	130,229	982,562	1921	396,617	26,038,902
1880	91,942	723,391	1901	144,919	1,029,925	1922	701,497	20,419,883
1881	108,304	761,731	1902	148,607	1,501,619	1923	574,567	13,156,182
1882	109,125	774,832	1903	139,876	1,671,495	1924	593,722	13,160,680
1883	104,383	825,011	1904	128,507	2,150,940	1925	416,864	13,636,145
1884	118,080	927,242	1905	121,815	4,747,723	1926	479,475	16,776,939
1885	101,268	1,129,901	1906	139,475	5,066,253	1927	629,761	10,270,674
1886	91,885	980,121	1907[1]	106,260	3,637,600	1928	615,089	15,368,692
1887	102,238	917,557	1908	177,591	5,374,774	1929	671,224	18,167,190
1888	99,920	883,251	1909	169,502	5,498,531	1930	810,530	23,508,502

[1] Nine months. [2] The increase in expenditure in 1920 and later years was due to the shipbuilding program and to loans to harbour commissions. [3] Includes $493,000 from sale of steamer *Earl Grey* to the Russian Government.

61.—Revenue of the Department of Marine, fiscal years ended Mar. 31, 1925-1930.

Source of Revenue.	1925.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$	$
Harbours, piers and wharves	101,130	112,114	117,077	57,803	45,878	53,281
Earnings of Dominion steamers	1,697	3,553	11,875	5,909	–	376
Decayed pilots' fund	–	–	–	–	–	–
Steamboat inspection fund	122,917	123,380	135,131	127,852	136,932	131,356
Examination, masters and mates	5,091	4,434	4,281	5,002	5,181	5,126
Casual revenue, sundries	34,718	53,067	80,724	98,659	121,990	104,860
Saint John pilotage dues	–	–	–	–	–	–
Saint John superannuation	–	–	–	–	–	–
Halifax pilotage dues	–	–	–	–	–	–
Halifax superannuation	–	–	–	–	–	–
Sydney pilotage fund	–	–	–	–	–	–
Sydney superannuation	–	–	–	–	–	–
Radio revenue	49,409	51,368	69,539	64,219	81,760	90,728
Fines and forfeitures	282	795	2,924	4,225	3,728	5,228
Wireless amateur licence fees	100,084	129,101	206,243	249,693	271,526	407,762
Wireless operators' examination fees	–	472	427	480	361	421
Miscellaneous	1,536	1,191	1,205	1,247	1,283	2,067
Capital account	–	–	335	–	2,585	9,325
Totals	**416,864**	**479,475**	**629,761**	**615,089**	**671,224**	**810,530**

62.—Expenditure of the Department of Marine, fiscal years ended Mar. 31, 1925-1930.

Item of Expenditure.	1925.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$	$
Ocean and River Service—						
Investigation into wrecks	–	5,374	5,832	5,749	4,921	4,754
Registration of shipping	–	2,444	2,163	2,573	2,162	2,402
Removal of obstructions	–	3,143	95,443	1,771	1,095	223
Life-saving service	79,692	83,854	62,668	62,919	53,380	60,478
Dominion steamers and icebreakers	1,390,856	1,492,079	1,497,106	1,625,501	1,954,580	1,647,499
Schools of navigation	5,817	6,596	7,752	7,288	7,816	7,174
Cattle inspection	3,201	3,877	4,000	3,709	3,644	3,671
Wrecking plants (subsidy)	35,000	35,000	35,000	45,000	45,000	45.000
Hudson Bay patrol	–	–	–	1,021,513	289,464	12,989
Examination, masters and mates	19,995	18,111	18,930	19,303	20,000	20,461
Hydrographic survey	292,197	250,892	266,480	310,699	386,739	508,246
Radio telegraph	412,175	492,316	439,804	475,204	735,004	829,499
Radio reception	–	–	111,782	154,543	166,776	225,265
Radio broadcast commission	–	–	–	–	–	20,603
Three new steamers	–	–	–	–	–	173,000
Icebreaker, Hudson bay	–	–	–	–	–	791,299
Icebreaker, St. Lawrence river	–	–	–	–	–	747,028
Other items of expenditure	13,701	4,238	33,848	13,333	12,675	25,741
Totals	**2,252,634**	**2,397,924**	**2,580,808**	**3,749,105**	**3,683,256**	**5,125,332**
Lighthouse and Coast Service—						
Agencies and contingencies	205,584	217,942	212,635	210.048	223.280	227,064
Administration of pilotage	77,953	102,902	82,624	121,744	141,657	118,099
Salaries and allowances to light-keepers	619,227	649,783	674,581	676,080	718,777	733,977
Maintenance and repairs to lighthouses, etc	762,610	814,305	830,772	893,182	889,223	915,978
Construction of lighthouses, etc	303,795	411,642	511,402	597.633	683,012	684,482
Breaking of ice	42,500	30,000	30,000	30,000	30,000	58,000
Patrol in B.C. and Northern waters	9,696	9,350	–	–	–	–
Signal service	94,748	99,990	99,765	102,938	109,994	107,947
New steamer	–	–	–	94,968	–	–
Other items of expenditure	21,488	19,980	24,179	20,167	16,957	25,719
Totals	**2,137,601**	**2,355,893**	**2,465,958**	**2,746,761**	**2,812,900**	**2,871,266**
Public Works, chargeable to Capital—						
Ship channel, river St. Lawrence	911,209	1,596,754	1,605,049	1,921,903	1,894,912	2,753,019
Quebec harbour improvement	493,333	–	–	–	–	–
Sorel shipyard	153,271	143,634	151,316	95,562	162,019	[1]
Allowances	–	–	–	–	6,625	2,438
St. Lawrence River dams	–	–	–	–	–	405,589
Totals	**1,557,813**	**1,740,388**	**1,756,366**	**2,017,464**	**2,063,556**	**3,161,046**
Scientific Institutions— Meteorological Service— **Totals**	**232,095**	**255,129**	**243,233**	**270,276**	**287,908**	**316,707**
Steamboat inspection	113,771	118,843	121,961	131,065	141,485	140,253
Departmental salaries	383,487	388,564	385,700	382,293	392,453	397,851
Contingencies	44,726	45,881	44,530	53,426	54,798	55,205
Bonus and salary revision	141,625	32,000	–	102,659	–	–
Gratuities	3,911	3,511	6,118	6,487	2,634	4,842
Retirement Act	40,483	–	–	–	–	–
Superannuation No. 4	–	20,980	–	–	–	–
Montreal Harbour Commission	3,265,000	6,245,000	1,035,000	2,180,000	3,110,000	4,336,000
Quebec Harbour Commission	734,000	479,000	903,000	2,160,000	2,888,000	2,821,000
Vancouver Harbour Commission	2,729,000	2,688,000	728,000	1,564,000	1,596,000	345,000
Halifax Harbour Commission	–	–	–	–	30,000	1,272,000
Chicoutimi Harbour Commission	–	–	–	–	500,000	815,000
Saint John Harbour Commission	–	–	–	–	602,000	1,711,000
Three Rivers Harbour Commission	–	–	–	–	–	136,000
Miscellaneous and unforeseen	–	5,825	–	5,156	2,200	–
Grand Totals	**13,636,145**	**16,776,939**	**10,270,674**	**15,368,693**	**18,167,190**	**23,508,502**

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[1] Included with "Ship channel, river St. Lawrence" for 1930.

Steamboat Inspection.—The Steamboat Inspection Service of Canada, maintained under the authority of the Department of Marine, comprises the Board of Steamboat Inspection, together with staffs of inspectors at the principal ocean and inland ports. The Board decides on the standards to be required of all vessels coming under its jurisdiction. These must be attained by all ships given official warrant as to their seaworthiness and mechanical condition. Further, the Board grants certificates of competency to engineers of steamboats.

A table showing the number and tonnage of steamboats inspected during the fiscal year ended Mar. 31, 1930, follows:—

63.—Steamboat Inspection during the fiscal year ended Mar. 31, 1930.

Division.	Vessels Inspected.				Vessels not Inspected.	
	Vessels Registered or Owned in the Dominion.		Vessels Registered or Owned Elsewhere.			
	No.	Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.
Halifax	163	230,515	13	50,641	–	–
Saint John	67	55,857	6	11,486	35	24,967
Quebec	75	39,045	–	–	4	1,001
Sorel	107	59,066	–	–	14	6,323
Montreal	132	176,675	25	70,239	87	26,559
Kingston	101	133,087	5	586	3	1,782
Toronto	195	192,311	46	64,304	12	1,769
Midland	66	52,109	6	131	16	7,755
Collingwood	92	40,995	–	–	28	4,943
Port Arthur	117	145,126	–	–	73	4,803
Vancouver	278	162,600	13	142,171	73	10,996
Victoria	75	63,198	15	39,667	15	26,119
Totals	**1,468**	**1,350,584**	**129**	**384,225**	**360**	**117,017**

Division.	Vessels Subject to Inspection when in Commission.		Vessels Added to the Dominion Register.		Vessels Lost, Broken Up or Destroyed.	
	No.	Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.
Halifax	176	281,156	5	29,915	4	895
Saint John	108	92,310	7	3,833	1	183
Quebec	79	40,046	5	5,622	5	506
Sorel	121	65,389	1	665	3	1,755
Montreal	244	273,473	7	13,586	5	7,889
Kingston	109	135,455	8	15,321	1	111
Toronto	253	258,384	6	8,320	10	2,863
Midland	88	59,995	1	2,419	3	264
Collingwood	120	45,938	2	289	3	144
Port Arthur	190	149,929	1	18	2	150
Vancouver	364	315,767	5	2,738	4	1,920
Victoria	105	128,984	–	–	–	–
Totals	**1,957**	**1,846,826**	**48**	**82,726**	**41**	**16,680**

Fees collected during the year on account of inspections totalled $135,776, and those on account of examinations of engineers amounted to $1,605, giving a combined total revenue collected by inspectors of $137,381.

Seamen Shipped and Discharged.—Table **64** shows, for each year from 1908 to 1929, the number of seamen shipped and discharged at Canadian ports under the provisions of the Canada Shipping Act (R.S.C. 1927, c. 186).

64.—Number of Seamen Shipped and Discharged at Canadian Ports, calendar years 1908-1929.

Year.	Seamen Shipped.	Seamen Discharged.	Year.	Seamen Shipped.	Seamen Discharged.
1908	18,013	11,542	1919	18,208	13,649
1909	20,502	11,573	1920	22,569	19,719
1910	16,735	11,069	1921	18,444	17,103
1911	13,748	11,301	1922	25,689	24,558
1912	13,708	11,290	1923	31,407	30,195
1913	16,975	13,749	1924	30,687	29,018
1914	18,987	14,989	1925	31,772	28,472
1915	22,797	14,319	1926	31,869	27,413
1916	20,902	16,689	1927	28,137	25,863
1917	16,998	14,145	1928	28,748	25,763
1918	16,516	12,930	1929	31,374	29,483

Wrecks and Casualties.—The statement in Table **65**, supplied by the Department of Marine, applies to vessels of every nationality in respect of wrecks and casualties in Canadian waters, and to Canadian vessels in respect of wrecks and casualties in other waters. The returns in some years cover wrecks and casualties of previous years. Statistics of marine danger signals appear in Table **66.**

65.—Canadian Wrecks and Casualties for 1870-1900, for the years ended June 30, 1901-1917, and for the calendar years 1918-1929.

Note.—For details of the years 1870-1900, see Canada Year Book, 1911, p. 381.

Year.	Casualties.	Net Tonnage.	Lives Lost.	Stated Damages.	Year.	Casualties.	Net Tonnage.	Lives Lost.	Stated Damages.
	No.	tons.	No.	$		No.	tons.	No.	$
1870-1900	9,670	3,577,367	5,096	61,525,760	1915	280	214,036	70	1,459,012
1901	136	47,181	126	285,782	1916	308	242,996	67	1,377,442
1902	222	105,814	132	835,916	1917	239	715,384	152	4,850,145[2]
1903	237	162,297	32	409,991	1918	226	312,928	402[3]	1,818,895
1904	192	81,143	9	489,699	1919	240	205,720	100	1,808,690
1905	178	79,588	15	621,267	1920	227	222,928	28	1,643,825
1906	220	139,586	149	573,420	1921	260	588,503	38	1,809,328
1907	317	131,441	55	672,466	1922	277	604,423	27	451,312
1908	307	120,269	34	1,390,891	1923	376	480,713	50	3,184,749
1909	343	189,906	24	1,131,966	1924	224	215,470	54	4,355,217
1910	321	211,565	101	1,569,580	1925	298	305,798	53	3,317,020
1911	271	122,619	48	942,093	1926	300	293,310	91	4,630,267
1912	293	269,569	59	1,053,768	1927	434	566,011	128	6,879,825
1913	275	270,905	160	1,963,870	1928	504	558,251	64	5,418,236
1914	255	210,368	1,083[1]	4,983,775	1929	451[4]	459,394	12	4,740,620[5]
					Totals	**17,881**	**11,705,483**	**8,459**	**126,194,827**

[1] Includes 1,042 lives lost in the *Empress of Ireland* disaster. [2] Excluding damage to cargo estimated at $4,310,350. [3] Includes 328 lives lost in the *Princess Sophia* disaster.

66.—Comparative Statement of Marine Danger Signals, fiscal years ended Mar. 31, 1919-1930.

Note.—Besides the following, there were, in 1930: 49 lighted spar-buoys, floats and dolphins; 5,532 unlighted buoys; 827 unlighted tripods, floats, dolphins, spindles and beacons; and 2,658 stakes, bushes and balises.

Description.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Lights	1,577	1,578	1,598	1,602	1,596	1,627	1,654	1,675	1,725	1,771	1,815	1,855
Lightships	9	10	9	9	9	10	10	10	11	11	11	11
Lightboats	1	1	-	-	-	-	-	-	-	-	-	-
Lightkeepers	1,122	1,120	1,130	1,118	1,105	1,119	1,134	1,143	1,156	1,179	1,192	1,207
Fog whistles	10	9	8	8	8	9	8	8	8	6	8	8
Sirens	2	1	1	1	1	1	1	1	2	2	2	2
Diaphones	128	131	134	135	138	140	146	146	147	153	158	162
Fog bells	29	32	33	35	36	35	35	36	35	36	38	38
Hand fog horns	156	149	148	148	148	147	149	148	148	151	147	151
Hand fog bells	5	4	4	4	4	4	4	4	5	4	4	4
Gas, whistling and bell buoys	339	336	343	345	349	359	374	374	380	401	411	425
Whistling buoys	31	31	30	29	30	30	32	34	36	38	40	40
Bell buoys	86	89	90	90	92	95	98	99	101	104	111	119
Submarine bells	15	12	11	7	7	7	7	6	6	6	4	4
Fog guns and bombs	6	7	7	7	7	7	6	6	6	6	5	5
Fog horns	3	1	1	1	-	-	-	-	-	-	-	-
Fog alarm stations	12	13	13	13	12	12	13	13	13	13	13	13

Section 7.—Merchant Marine Services Operated by the Canadian Government.[1]

During the closing years of the war, the Dominion Government, realizing the need for a mercantile fleet, not only as a means of developing Canada's export trade but also as a means of assisting the National Railways and of providing employment, placed orders with Canadian shipbuilding firms for the construction of 63 steel cargo vessels of six different types. These vessels were intended primarily to co-operate with British shipping in supplying the necessities of war, as well as to provide in times of peace the means of carrying abroad the products of Canada's farms, forests, mines and factories, without which Canada could not hope to take full advantage of the opportunity of expanding her export trade. Prior to Dec. 31, 1919, 19 vessels had been delivered by the builders. Additions were subsequently made to the fleet until the total fleet, as at Dec. 31, 1924, numbered 57 vessels of a total deadweight tonnage of 353,450. Through sale or loss of vessels the fleet was reduced to 31 vessels with a deadweight tonnage of 243,710 at Dec. 31, 1929. With regard to ownership and operation, a separate company was organized for each vessel and the capital stock of each is owned by the Canadian Government Merchant Marine, Ltd. Under an operating agreement with each of these companies, the Canadian Government Merchant Marine, Ltd., operates all the steamers and keeps a separate account for each company. Promissory notes have been given to the Minister of Finance and Receiver-General for the total capital stock of each vessel, with interest payable at 5½ p.c. per annum.

Early operations proved profitable, and a surplus of $1,004,233 (without provision for interest charges) was shown for the year ended Dec. 31, 1920. Subsequent years, however, have shown the effects of the depression in the shipping industry, and annual deficits of $8,047,635, $9,649,479, $9,368,670, $8,836,609, $7,667,-513, $6,687,221, $7,086,940, $7,545,525 and $5,928,758 are shown for the years 1921 to 1929 respectively.

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[1] Revised by Geo. W. Yates, Assistant Deputy Minister, Department of Railways and Canals.

In conformity with the Canada-West Indies Trade Agreement Act of 1926, (16-17 Geo. V, c. 16), the Dominion Government has provided direct steamship services to the West Indies through the medium of Canadian National (West Indies) Steamships, Ltd. The service is provided by a fleet of twelve vessels of a total dead weight tonnage of 60,592. Five of these boats, known as the "Lady" ships, were specially constructed for passenger service on this route, while the remaining seven vessels previously formed part of the Canadian Government Merchant Marine fleet, and were taken over by the Canadian National (West Indies) Steamships, Ltd., for operating purposes, under entrusting agreements with the companies which respectively owned such ships. The investment in vessels at Dec. 31, 1929, amounted to $9,633,306, mainly made up of the construction cost of the "Lady" ships and the present day valuation of the other seven ships, together with the cost of conversion for use in the West Indies service of three of the latter.

The first annual report of the Canadian National (West Indies) Steamships, Ltd., is for the year ended Dec. 31, 1929, during which operating revenues amounted to $3,332,683 and operating expenses to $3,780,524, or a net operating loss of $447,841. After debiting $227,315 for depreciation and $442,739 representing interest on notes and advances, the total book loss for the year was $1,117,896.

PART X.—TELEGRAPHS.

Section 1.—Telegraph Statistics.[1]

The Toronto, Hamilton and Niagara Electro-Magnetic Telegraph Co., organized by a group of Toronto men, was the first to establish an electric telegraph service in the pre-Confederation province of Canada. It was formally organized on Oct. 22, 1846, and its Toronto-Hamilton line was opened on Dec. 19 of the same year. In January, 1847, the line was completed to Queenston, whence there was a connecting line to Buffalo. The Montreal Telegraph Co. commenced the construction of a line to Toronto in February, 1847, and began actual operation between the two cities on Aug. 3 of the same year. By the end of the year it had 540 miles of wire in use, 9 offices and 35 employees, and had sent out 33,000 messages. Both the Montreal and the Toronto companies were incorporated by special Acts at the 1847 session of the Legislature. In 1852 the Toronto, Hamilton and Niagara Co. sold out to the Montreal company.

The British North American Electrical Association was also formed in 1847, with the object of connecting Quebec with the Maritime Provinces, but for some years its line went no farther than Rivière du Loup, though it was finally extended to Woodstock, N.B., where it connected with the American Telegraph Co., which already had lines in New Brunswick. The New Brunswick Telegraph Co. built a line connecting Saint John with the Maine lines in 1848, and in the following year extended it to Amherst, N.S., where it connected with the Nova Scotia line, bringing Halifax for the first time into telegraphic communication with New York.

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[1] Revised by G. S. Wrong, B.Sc., Chief of the Transportation and Public Utilities Branch of the Dominion Bureau of Statistics, which issues an annual report dealing with telegraph statistics.

The movement for consolidation of services, so evident in the Canadian railways, was also active among the telegraph companies. Thus the Montreal company bought out the Toronto, Hamilton and Niagara Telegraph Co., the Montreal and Bytown Telegraph Co., the Grand Trunk Telegraph Co., and maintained a strenuous competition with the Dominion Telegraph Co., organized in 1868. In 1881, however, the conflicting interests were consolidated under lease by the Great North Western Telegraph Co., this move effecting great economies in operation. A few years later, however, the Canadian Pacific Railway Co. established competing lines, and by September, 1886, had opened 366 offices in Ontario, Quebec and Western Canada.

The Dominion Government Telegraph Service was commenced with the object of furnishing rapid communication in outlying districts where the amount of business was so small that commercial companies would not enter the field, but where the public interests required that there should be communication. Its services are especially useful in connection with the signal and other stations established by the Department of Marine along the north shore of the Gulf of St. Lawrence, and in the Maritime Provinces and British Columbia. On Mar. 31, 1930, the Government Telegraph Service comprised 9,351 miles of pole line, 11,035 miles of wire, 364½ knots of cable and 796 offices. Details will be found in the Annual Report of the Minister of Public Works.

Telegraph Systems.—The Canadian telegraph systems are composed of lines owned by the Dominion Government and by chartered railway and telegraph companies. The lines previously owned by the Great North Western Telegraph Co., the Grand Trunk Pacific Telegraph Co., the Canadian Northern Railway Co. and the National Transcontinental Railway are now owned by the Government and are operated by the Canadian National Telegraph Co. (formerly Great North Western Telegraph Co.). The Dominion Government Telegraph Service operates the line to the Yukon and other lines in outlying districts.

The Canadian system, in proportion to population, is one of the most extensive in the world, and is operated under considerable climatic and geographic disadvantages. In the operation of railways and in the receipt and despatch of market and press reports its services to the nation are invaluable.

Telegraph Statistics.—A brief summary table giving the more important figures of the operation of Canadian telegraphs from 1920 to 1929 follows. For details see the Bureau of Statistics' Annual Report on Telegraph Statistics.

67.—Summary Statistics of All Canadian Telegraphs for the calendar years 1920-1929.

Year.	Gross Revenue.	Operating Expenses.	Net Operating Revenue.	Pole Line Mileage.	Wire Mileage.	Employees.	Offices.	Messages, Land.	Cablegrams.[3]	Money Transferred.
	$	$	$	miles.	miles.	No.	No.	No.	No.	$
1920	11,337,428	9,589,982	1,747,446	52,393	238,866	7,508	4,825	15,589,711	1,162,204	7,045,661
1921	11,310,989	9,734,299	1,576,690	52,828	250,802	7,818	4,901	15,013,993	1,154,787	5,150,916
1922	11,018,762	9,846,425	1,172,337	53,096	262,343	8,500	4,762	15,271,410	4,736,204	4,404,407
1923	11,417,284	9,931,845	1,485,439	53,383	270,782	8,275	4,961	16,150,106	5,055,115	5,326,352
1924	10,930,020	9,603,620	1,326,400	54,742	268,632	8,909	4,945	15,460,811	5,790,582	6,428,080
1925	11,520,322	9,681,200	1,839,122	51,726[1]	284,121	7,224[2]	4,664	14,460,988	6,104,025	6,680,595
1926	12,143,388	10,166,040	1,977,348	52,612[1]	305,933	6,755[2]	4,801	14,934,683	6,421,673	7,790,127
1927	12,990,549	10,600,412	2,390,137	52,731[1]	323,539	7,238[2]	4,885	15,564,067	6,664,771	9,241,864
1928	14,740,641	11,647,063	3,093,578	53,777[1]	337,971	7,639[2]	4,909	16,857,220	6,861,195	9,776,090
1929	16,256,441	12,590,364	3,666,077	52,835[1]	360,883	8,056[2]	4,766	18,029,973	4,059,788	11,295,857

[1] Excluding U.S. lines of Canadian National Telegraphs. [2] Excluding railway employees.
[3] Including transatlantic cablegrams relayed between Canso, N.S., and the United States.

Table **68** gives figures of telegraph operation and line and wire mileage of various companies for the years 1924 to 1929. Statistics of the Halifax and Bermudas Cable Co., the Canadian Marconi Wireless Telegraph Co. and the Pacific Cable Board are not included.

68.—Statistics of Chartered Telegraph Companies for the calendar years 1924-1929

Company.	Yrs.	Miles of Line.	Miles of Wire.	Number of Messages.[1]	Number of Offices.[3]
Canadian National Telegraph Co.[4] (Formerly Great North Western Telegraph Co.)	1924	23,204	109,537	8,376,371	1,901
	1925	22,432	124,769	7,064,885	1,902
	1926	23,031	129,042	7,538,301	1,922
	1927	23,049	136,143	7,875,550	1,941
	1928	23,412	141,523	8,238,893	1,943
	1929	24,565	166,121	9,488,208	2,135
Canadian Pacific Railway Co.	1924	15,353	123,849	4,975,172[2]	1,527
	1925	15,410	124,619	5,671,853[2]	1,407
	1926	15,686	141,924	5,863,568[2]	1,510
	1927	15,775	151,329	6,072,459[2]	1,566
	1928	16,429	160,287	6,858,597[2]	1,638
	1929	16,794	167,664	7,259,205[2]	1,642
Western Union	1924	3,562	18,738	729,730	225
	1925	2,779	18,431	747,144	207
	1926	2,751	18,493	779,188	207
	1927	2,721	18,179	832,312	202
	1928	2,721	18,129	881,245	194
	1929	1,178	10,910	414,506	[5]
Temiskaming and Northern Ont. Ry. Commission	1924	413	1,817	173,118	34
	1925	424	1,935	115,920	35
	1926	422	2,009	130,770	36
	1927	449	3,270	135,613	37
	1928	450	3,288	153,842	38
	1929	450	3,288	128,852	38
The North American Telegraph Co., Ltd.	1924	–	515	71,429	21
	1925	–	454	71,335	21
	1926	–	445	76,826	19
	1927	–	445	78,531	19
	1928	–	445	84,427	18
	1929	–	445	87,514	18
Dominion Government Telegraph Service	1924	11,210	14,176	526,681	1,192
	1925	10,681	13,913	499,358	1,052
	1926	10,722	14,020	522,796	1,066
	1927	10,737	14,173	536,842	1,082
	1928	10,765	14,299	535,605	1,040
	1929	9,848	12,455	537,080	895

[1] Cablegrams not included. The total in Table **67** includes messages handled by the Marconi Wireless Telegraph Co. [2] Not including press messages. [3] The total in Table **67** includes offices of wireless and cable companies. [4] Statistics of the Grand Trunk Pacific Telegraph Company have been included with the Canadian National up to 1927 and the two were amalgamated in 1928. [5] Included with Canadian National in 1929.

Submarine Cables.—Six transoceanic cables have termini in Canada—five of them on the Atlantic and one on the Pacific coast. The date on which the cable was first shown to be of commercial value was in 1866, and up to the present its use has greatly increased. The Atlantic cables are controlled by English and American interests. The Pacific cable, from Canada to Australia and New Zealand, has been in operation since 1902, and has been owned by a partnership of the Governments of Great Britain, New Zealand, Australia and Canada. As a result of the recommendation of the Imperial Wireless and Cable Conference of

1928, in view of increased wireless competition, it was decided to dispose of the Pacific and West Indian Islands cable systems to the Imperial and International Communications Company, a company formed to take over all Empire-owned cables and lease the Empire-owned beam wireless systems. The necessary legislation was passed by Great Britain in February, 1929, and by Canada in June, 1929, and Canada received $591,662 as her share of the proceeds of the sale.

Section 2.—Radio Service.[1]

Radiotelegraphy.—The administration of radio within the Dominion is vested in the Minister of Marine.

As early as 1904, the Department commenced the establishment of coast radio stations as aids to navigation and for communication with ships at sea. At the present time Canada's extensive coastline is covered by a network of some 60 odd stations, of which 27 are located on the east coast, 13 on the Great Lakes, 15 on the west coast and 5 on Hudson bay and strait. Twice daily at advertised hours, a number of these stations broadcast messages to shipping, containing such important information as weather forecasts, storm warnings, reports in connection with floating derelicts, ice and other dangers to navigation.

The discrimination by underwriters in insurance rates charged on ships plying to Canadian ports has led the Department to feel that any reasonable expenditure which would tend to reduce these charges would be a sound investment. To this end 12 radio direction-finding stations have been established at specially selected sites with respect to navigational routes, 7 on the east coast, 4 on Hudson bay and strait, and one on the west coast of Vancouver island. These stations are fitted with a special apparatus that enables the direction of an incoming radio signal transmitted by a ship to be accurately determined. That these stations have proved exceptionally successful is demonstrated by the volume of letters received by the Department of Marine commending the work of its stations, and it is the expressed opinion of many master mariners that Canadian direction-finding stations set a standard for accuracy and efficiency. A more recent extension of this feature is the development of the direction-finding instrument for use on board ship. To assist this development, the Department has installed radio transmitters at a number of its lighthouses and lightships. These radio "beacons", as they are termed, function automatically whenever the fog alarm plant is in operation, sending out a characteristic radio signal with an approximate range of 50 miles. Ships fitted with their own direction-finding instruments are thus enabled to take their own bearings from the points at which the beacon stations are located. The latest type of radio beacon used by the Department is completely automatic in its operation. Such beacons are controlled by a clock which starts in proper sequence the gasolene engine, the generators and other associated apparatus, keeping them operating for a predetermined period and stopping all machinery at the end of the period.

Since the sinking of the *Titanic,* which on her maiden voyage struck an iceberg that had drifted into the transatlantic steamship lanes, an international ice patrol, supported and maintained by the maritime nations of the world, watches the traffic routes of the North Atlantic for the purpose of reporting the presence of icebergs to passing ships by radio. Canada has her own problem in this connection—that of combating ice which accumulates in the lower gulf of St. Lawrence prior to the opening of navigation to Quebec and Montreal each spring. For this purpose a patrol service is maintained in the Gulf during the ice period each year by the ice-breakers *Mikula* and *Montcalm*. These vessels cruise in the vicinity of Cabot straits, observing ice conditions and broadcasting to ships a synopsis of location and drift of the ice, and recommending routes to follow. When it is impossible for ships to circumvent the ice fields by devious routes, the ice-breakers are prepared to open up lanes through the ice.

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[1] Revised by the courtesy of Commander C. P. Edwards, O.B.E., Director, Radio Service, Department of Marine.

On the west coast of Vancouver island co-ordination of the different services of the Department of Marine was undertaken a few years ago, and as a result line telephone, land patrol, sea patrol and the lifeboat service were all linked together by radio to provide an efficient life-saving organization. In addition to the direction-finding station already established, three radiophone stations were installed at lighthouses and at a life-saving station, thus providing a network of communication assuring instant assistance in case of disaster.

Due provision has been made for the safe navigation of the large volume of shipping which may shortly find its way through the Hudson strait and bay. The Department has completed the establishment of four direction-finding stations in that area, enabling radio-equipped vessels to navigate the strait and bay in all kinds of weather. Further observations covering navigation conditions in the Hudson bay and strait during the 1929 season of navigation were made and have been compiled in book form.[1] Copies may be procured upon request from the Department of Marine.

For the benefit of navigators, to whom time within a fraction of a second is necessary if reasonable accuracy is to be attained in computing observations on celestial bodies, three Canadian stations, two on the west coast and one on the east coast, transmit time signals twice daily at advertised hours.

Numerous fishermen have fitted their vessels with receiving sets and for their benefit the Department has inaugurated a special broadcasting service embodying such information as weather forecasts, storm warnings, market prices of fish, etc. Three stations are used for this purpose, Louisburg (VAS), Sambro Lightship (VCX) and Saint John, N.B. (CFBO), augmented by a broadcasting service undertaken by the fishery patrol steamer *Arras*, which accompanies the fishing fleet to the Grand Banks during the summer season.

A transoceanic commercial radio beam service is carried on by the Drummondville, Quebec, station, which maintains communication with Great Britain, Australia and the United States.

To ensure the safety of the lives of the passengers and crew, all passenger steamers and certain freighters plying to and from Canadian ports must carry radio equipment manned by competent operators in possession of a certificate of proficiency in radiotelegraphy. The Department maintains a complete radio inspection service to enforce this regulation, and members of the inspection staff located at various ports through the Dominion are responsible for checking the efficiency of radio equipment on ships and for seeing that only competent operators are carried. Examinations for certificates of proficiency in radiotelegraphy are conducted by the Radio Branch and approximately 2,546 such certificates have been granted to date. Table **69** shows the name and situation of the Government-owned radiotelegraph stations in Canada and Newfoundland. In former editions of the Year Book licensed private commercial stations were also listed, but their increasing number renders this impossible. A list of those in operation in 1926 appears on pp. 657-658 of the 1926 Year Book, while an official list of the radio stations of Canada is published annually by the Radio Branch, Department of Marine, at 25 cents per copy, with supplements.

Table **70** gives the number of messages and words handled and the cost of maintenance for the Government stations of the east coast, the west coast, the Great Lakes, and Hudson bay and Hudson strait. For the year 1929-30, the total number of messages was 440,912, as compared with 456,239 in 1928-29, 404,144 in 1927-28 and 402,023 in 1926-27, and of words handled 9,167,302, as compared with 8,942,945 in 1928-29, 7,695,757 in 1927-28 and 7,347,794 in 1926-27.

69.—Government-Owned Radio Stations in Canada, fiscal year ended Mar. 31, 1930[1].

Name of Station.	Situation.
East Coast.	
Belle Isle, Nfld.[2]	Belle Isle Straits.
Cape Race, Nfld.*	Newfoundland.
Chebucto Head, N.S.[2]	Entrance Halifax Harbour.
Clarke City*	Gulf of St. Lawrence.
Fame Point, Que.*	" "
Father Point, Que.*	" "
Grindstone Island, Que	Magdalen Islds.
Halifax Dockyard[3]	Halifax, N.S.
Montreal, Que.*	St. Lawrence River.
North Sydney*	Cape Breton, N.S.
Point Amour, Nfld	Gulf of St. Lawrence.
Quebec, Que	St. Lawrence River.
Sable Island*	North Atlantic.
Saint John, N.B.[2]	Red Head, N.B.
Yarmouth, N.S.[2]	Nova Scotia.
DIRECTION-FINDING STATIONS.	
Belle Isle D/F	Belle Isle Straits.
Canso D/F	Nova Scotia.
Cape Race D/F	Newfoundland.
Chebucto Head D/F	Entrance Halifax Harbour.
Saint John D/F	Red Head, N.B.
Saint Paul D/F	Nova Scotia.
Yarmouth D/F	Nova Scotia.
RADIO BEACON STATIONS.	
Cape Whittle	Gulf of St. Lawrence.
West Point	Anticosti.
Pointe des Monts	Gulf of St. Lawrence.
Cape Bauld	N.W. Newfoundland.
Cape Ray	S.W. Newfoundland.
Heath Point Lightship	Heath Point, Anticosti.
Lurcher Lightship	Off Yarmouth, N.S.
Sambro Lightship	Off Halifax, N.S.
Seal Island	S.E. of Nova Scotia.
Great Lakes.	
Kingston, Ont*	Barriefield Common.
Midland, Ont.*	Georgian Bay.
Point Edward, Ont.*	Lake Huron.
Port Arthur, Ont.*	Port Arthur.
Port Burwell, Ont.*	Lake Erie.
Sault Ste. Marie, Ont.	Sault Ste. Marie, Ont.
Tobermory, Ont.*	Entrance Georgian Bay, Ont.
Toronto, Ont.*	Toronto Island.
RADIO BEACON STATIONS.	
Southeast Shoal	Lake Erie.
Main Duck	Lake Ontario.
Long Point	Lake Erie.
Michipicoten Island	Lake Superior.
Cove Island	Lake Huron.
Hudson Bay and Hudson Strait.	
Cape Hopes Advance, Que.[2]	Hudson Strait.
Nottingham Island[2]	Hudson Strait.
Port Churchill, Man.[2]	Hudson Bay.
Resolution Island[2]	Hudson Strait.
DIRECTION-FINDING STATIONS.	
Cape Hopes Advance	Hudson Strait.
Nottingham Island	Hudson Strait.
Port Churchill, Man.	Hudson Bay.
Resolution Island	Hudson Strait.
West Coast.	
Alert Bay	Cormorant Island, B.C.
Bull Harbour	Hope Island, Vancouver Is.
Cape Lazo	Strait of Georgia near Comox, B.C.
Dead Tree Point	South of Graham Island, Queen Charlotte Islands.
Digby Island, B.C.	Entrance, Prince Rupert Harbour.
Estevan, B.C.	West coast, Vancouver Is.
Gonzales Hill, B.C.	Victoria, B.C.
Merry Island, B.C.	British Columbia.
Pachena Point[2]	West coast, Vancouver Is.
Point Grey, B.C.	Entrance, Vancouver Harbour.
Vancouver	Merchants Exchange, Vancouver.
DIRECTION-FINDING STATIONS.	
Pachena Point D/F	West coast, Vancouver Is.
RADIO BEACON STATIONS.	
Race Rocks	Near Victoria, B.C.
LIFE-SAVING STATIONS.	
Banfield, B.C.	West coast, Vancouver Is.
Carmanah, B.C.	" "
Cape Beale, B.C.	" "
Pachena, B.C.	" "

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[1] Of these Government-owned stations some only are operated by the Government. The rest are operated by the Marconi Co. and are indicated by an asterisk *.

[2] This is the same station as that listed under Direction-Finding Stations below, but is included under two headings to indicate its two functions. It is counted only as a D/F station in the summary in Table **71.**

[3] Temporarily closed.

70.—Business and Cost of Maintenance of Radiotelegraph Stations for the fiscal years ended Mar. 31, 1929 and 1930.

Station.	1929.			1930.		
	Messages Handled.	Words Handled.	Cost of Maintenance.	Messages Handled.	Words Handled.	Cost of Maintenance.
	No.	No.	$	No.	No.	$
East Coast	178,465	3,268,485	187,769	141,661	2,793,600	201,344
Great Lakes	35,144	500,739	58,608	36,218	581,037	61,628
West Coast	219,170	4,284,775	123,987	235,435	4,801,959	129,836
Hudson Bay and Strait	23,460	888,946	8,702	27,598	990,706	74,821
Totals	**456,239**	**8,942,945**	**379,066**	**440,912**	**9,167,302**	**467,629**

Radiotelephony.—Radiotelephony—the wireless transmission of the human voice—is a later development of radiotelegraphy. During the Great War, radiotelephony was perfected for the use of warships and aeroplanes. In 1920 and 1921 its peace-time possibilities were for the first time widely appreciated, and musical programs were broadcasted by electrical companies as part of their campaign to sell private radio equipment. Radiotelephony has become a very practicable means of relaying telephone messages to places where the population is too sparse to support a telephone system and to ships at sea. Thus it is a great boon to distant and isolated posts or settlements and to survey parties in the field, who by this means can keep in touch with the centres of population. But radiotelephony is not appliable to the regular business of telephone companies in urban districts, because only a limited number of messages can be transmitted simultaneously without interference. However, as an indication of the increasing popularity of radio receiving sets for "listening in" on broadcasted musical programs and news, the number of such sets licensed in Canada (private receiving stations in Table 71) has grown from 9,956 in the fiscal year ended Mar. 31, 1923 to 424,146 in 1930. In the latest year the total was divided among the provinces as follows:—Ontario, 212,046; Quebec, 71,843; Saskatchewan, 32,951; Manitoba, 26,419; British Columbia, 36,075; Alberta, 21,479; Nova Scotia, 13,410; New Brunswick, 8,789; Prince Edward Island, 986; Northwest Territories and Yukon, 148. In the calendar year 1929, the production in Canada of radio apparatus, including sets, parts and batteries, reached a total value of $20,966,137. Complete sets manufactured numbered 143,968 valued at $14,986,173.

A public radiotelephone service between Canada and Great Britain is now available to Canadian users through the medium of the transatlantic circuit operated by the American Telegraph and Telephone Co. from New York. In view of the desirability of establishing a direct Anglo-Canadian circuit, extended tests were carried out during the summer of 1929 between the Canadian Marconi Co.'s beam-radio station at Drummondville, Quebec, and the British Post Office station at Rugby, England. Negotiations between the interested administrations and operating companies with a view to concluding an agreement for the establishment of such a service are proceeding.

Approximately $250,000 is expended annually by the Radio Branch of the Department of Marine for the suppression of inductive interference in the interests of broadcast listeners. This service is entirely free. Upwards of 100 men and 24 fully equipped cars are engaged in this work. Radio broadcasting throughout the Dominion is at present carried on by private enterprise. A Royal Commission has investigated the broadcasting situation and its report is now before the Government.

71.—Wireless and Radio Stations in Operation in Canada, Mar. 31, 1926-1930.

Class of Station.	1926.	1927.	1928.	1929.	1930.
Coast Stations (Government-owned)	30	39	33	30	28
Direction-Finding Stations (Government-owned)	8	8	8	11	12
Ship Stations (Government-owned)	28	24	33	37	44
Radio Beacon Stations (Government-owned)	6	7	8	8	15
Radiophone Stations (Government-owned)	4	5	4	4	4
Land Stations	1	14	27	27	1
Ship Stations (commercial)	252	272	279	296	275
Limited Coast Stations	3	3	3	3	4
Public Commercial Stations	9	8	7	4	47
Private Commercial Stations	59	72	77	98	138
Private Commerical Broadcasting Stations	55	74	84	79	81
Experimental Stations	37	59	42	46	71
Amateur Experimental Stations	482	402	532	584	610
Amateur Broadcasting Stations	16	23	15	12	10
Private Receiving Stations	134,486	215,650	268,420	297,398	424,146[1]
Radio Training Schools	9	9	9	5	6
Licensed aircraft	-	-	-	2	3
Totals	**135,485**	**216,669**	**269,581**	**298,644**	**425,495**

[1] Includes 589 licences issued free to the blind.

PART XI.—TELEPHONES.[1]

The telephone is in part a Canadian invention, though its inventor, Alexander Graham Bell, a Scotchman by birth, was at the time of its invention a resident of the United States, having immigrated with his father to Brantford, Ontario, in 1870, and subsequently proceeded to Boston. According to his account, the discovery of the telephone, both as to its main principle and as to the first transmission of the human voice, was made at his father's residence at Tutela Heights, Brantford, in 1876, and the first telephone talk over any distance was conducted between Brantford and Paris, a distance of 8 miles, on Aug. 10, 1876.

Telephone development in Canada dates from the year 1880, when the Bell Telephone Co. was incorporated by Act of Parliament. Although at this time all patents and lines were owned by the Canadian Telephone Co., they were dependent on the Bell Co., to which they sold out in 1882. By 1883 the first submarine telephone cable had been laid between Windsor and Detroit, and during the year the Bell Co. operated in Canada 4,400 rental-earning telephones,

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[1] Revised by G. S. Wrong, B.Sc., Chief of the Transportation and Public Utilities Branch of the Dominion Bureau of Statistics which issues an annual report on Telephone Statistics.

44 exchanges and 40 agencies, with 600 miles of long distance wire. It controlled development in all the provinces except British Columbia, where the greater part of the system has always been in the hands of the British Columbia Telephone Co., Ltd.

With the rapid growth of private companies in the Maritime Provinces, the lines of the Bell Co. were disposed of in 1888 to the Maritime Telegraph and Telephone Co. in Nova Scotia, and to the New Brunswick Telephone Co. in New Brunswick, an interest in these corporations being retained under the terms of sale. A development of a different kind is seen in the three Prairie Provinces, where well-organized systems were sold to the Governments of Manitoba and Alberta in 1908 and to Saskatchewan in 1909. The lines in Ontario and Quebec are still largely owned by the Bell Telephone Co.

Telephone Systems.—The 2,415 telephone systems existing in 1929 (Table **73**) include the three large provincial systems in Manitoba, Saskatchewan and Alberta, and a smaller governmental system in Ontario, together with the system operated by the National Parks of Canada, Department of the Interior. There were also 137 municipal systems, the largest operated by the cities of Edmonton, Fort William and Port Arthur. Out of the 1,543 co-operative telephone companies, no fewer than 1,176 are in Saskatchewan alone and 205 in Nova Scotia. Besides the above, there were 492 stock companies, 106 partnerships and 132 private systems.

The steady growth of the use of telephones from 1911 on is indicated in the summary statistics of Table **72**, showing an increase from 302,759 in 1911 to 1,399,986 in 1929, or from 4·2 to 14·3 telephones per 100 of the population. By provinces, the numbers of telephones in 1929 were as follows:—Ontario 619,580, Quebec 293,353, British Columbia 125,861, Saskatchewan 116,467, Alberta 80,273, Manitoba 79,279, Nova Scotia 44,575, New Brunswick 33,910, Prince Edward Island 6,553, Yukon Territory 135. The number of instruments per 100 estimated population was as follows:—British Columbia 21·2, Ontario 18·9, Saskatchewan 13·4, Alberta 12·4, Manitoba 11·9, Quebec 10·9, New Brunswick 8·1, Nova Scotia 8·1 and Prince Edward Island 7·6. In the proportion of telephones to population Canada as a whole, with 14·3 telephones per 100 population, ranks second to the United States which has 16·3 telephones per 100 population.

Estimates of the number of telephone conversations during 1929 were 2,525,500,000 local and 37,851,600 long distance calls. These estimates were based on estimates made by systems operating 83·6 p.c. of all telephones in Canada and their estimates were based on actual counts made on days of normal business activity, and, after adjusting for uncompleted calls, holidays, Sundays, etc., the average was multiplied by 365. The long distance calls in practically all cases were the actual long distance calls put through or completed. The average was 1,803 local and 27 long distance calls per telephone and 257 telephone conversations per capita as compared with an estimated average of 241 in 1928. The estimated per capita average for the United States in 1928 was 230·7 and for New Zealand, 209·1.

Statistics of the number of telephone companies reporting to the Dominion Bureau of Statistics are given in Tables **73** and **74.**

72.—Progress of Telephones in Canada, years ended June 30, 1911-1918, and Dec. 31, 1919-1929.

Yr.	Capitalization.	Cost of Property.	Revenue.	Operating Expenses.	Salaries and Wages.[1]	Companies	Pole Line Mileage.	Telephones.	Employees[2]	Telephones per 100 Population.
	$	$	$	$	$	No.	miles.	No.	No.	No.
1911	40,043,982	34,737,530	10,038,220	6,979,045	915,636	537	–	302,759	10,425	4·2
1912	46,276,852	56,887,799	12,273,627	9,094,689	2,659,642	683	–	370,884	12,783	5·0
1913	59,847,005	69,214,971	14,879,278	11,175,689	6,839,399	1,075	–	463,671	12,867	6·2
1914	70,291,884	80,258,356	17,297,269	12,882,402	8,250,253	1,136	–	521,144	16,799	6·8
1915	74,284,991	83,792,583	17,601,673	12,836,715	8,357,029	1,396	–	533,090	15,072	6·8
1916	76,920,314	88,520,020	18,594,268	11,147,201	7,852,719	1,592	–	548,421	15,247	6·8
1917	79,121,702	94,469,534	20,122,282	12,095,426	8,882,593	1,695	–	604,136	16,490	7·4
1918	85,274,691	104,368,628	22,753,280	13,644,518	10,410,807	2,007	–	662,330	17,336	8·0
1919	100,587,833	125,017,222	29,401,006	20,081,436	15,774,586	2,219	–	778,758	20,491	9·2
1920	116,689,705	144,560,969	33,473,712	28,044,401	17,294,405	2,327	161,270	856,266	21,187	9·9
1921	132,537,771	158,678,229	36,986,913	30,080,035	19,000,422	2,365	178,093	902,090	19,943	10·3
1922	143,802,023	167,332,932	39,559,149	29,966,181	17,305,759	2,387	184,147	944,029	19,321	10·6
1923	152,673,022	179,002,152	42,132,959	32,390,370	18,182,429	2,459	188,408	1,009,203	21,002	11·1
1924	160,015,020	193,884,378	44,322,598	33,615,686	18,293,234	2,466	193,399	1,072,454	21,685	11·6
1925	168,167,291	210,535,795	47,233,617	35,566,947	19,106,383	2,495	194,370	1,142,876	21,831	12·2
1926	179,151,098	227,155,900	50,522,859	38,141,360	25,219,493	2,479	201,604	1,201,008	23,083	12·8
1927	192,442,495	243,999,135	56,907,338	48,561,916	26,254,605	2,462	204,245	1,259,987	23,437	13·2
1928	207,441,866	263,201,651	61,791,333	51,542,544	28,501,378	2,447	207,566	1,334,534	24,373	13·8
1929	234,943,307	291,589,148	65,240,610	56,559,517	31,672,277	2,415	220,525	1,399,986	27,459	14·3

[1] Includes salaries and wages chargeable to capital accounts.
[2] Exclusive of employees on rural lines in Saskatchewan.

73.—Number of Telephone Companies in Canada, by Provinces, Dec. 31, 1929.

Province.	Government.	Municipal.	Stock.	Co-operative.	Partnership.	Private.	Total.
Prince Edward Island........	–	–	14	25	–	6	45
Nova Scotia.................	–	–	16	205	16	14	251
New Brunswick...............	–	–	18	3	4	5	30
Quebec......................	–	–	102	42	22	30	196
Ontario.....................	1	126	305	54	52	61	599
Manitoba....................	1	8	1	6	6	7	29
Saskatchewan................	1	–	19	1,176	–	4	1,200
Alberta.....................	2	2	7	31	6	5	53
British Columbia............	–	1	9	1	–	–	11
Yukon Territory.............	–	–	1	–	–	–	1
Totals..............	**5**	**137**	**492**	**1,543**	**106**	**132**	**2,415**

74.—Number of Telephone Companies in Canada, 1911-1929.[1]

Year.	Government.	Municipal.	Stock.	Co-operative.	Partnership.	Private.	Total.
1911	3	25	308	101	18	82	537
1912	3	35	368	133	31	113	683
1913	4	52	543	262	63	151	1,075
1914	4	58	611	297	48	118	1,136
1915	4	62	584	601	28	117	1,396
1916	4	67	622	765	23	111	1,592
1917	5	73	645	841	17	114	1,695
1918	5	74	735	1,085	12	96	2,007
1919	5	89	666	1,346	18	95	2,219
1920	5	88	647	1,495	9	83	2,327
1921	5	103	614	1,544	7	92	2,365
1922	5	117	693	1,474	–	98	2,387
1923	5	127	450	1,752	1	124	2,459
1924	5	153	502	1,606	63	137	2,466
1925	6	144	502	1,551	106	186	2,495
1926	6	142	490	1,560	107	174	2,479
1927	5	138	496	1,552	102	169	2,462
1928	5	137	494	1,557	93	161	2,447
1929	5	137	492	1,543	106	132	2,415

[1] The years 1911-1918 are from July 1 to June 30. Figures for 1919 to 1929 are for the calendar years.

In the two following tables, figures are shown giving the number of telephones in use, the mileage of wire and the number of employees of telephone companies, by provinces, for the year 1929, and for the Dominion, from 1911 to 1929.

75.—Telephones in Use, Mileage of Wire and Number of Employees, by Provinces, Dec. 31, 1929.

Province.	Telephones in Use.						Mileage of Wire.	Employees.
	Business.	Residential.	Rural.	Public Pay.	Total.	Per 100 Population.		
	No.	No.	No.	No.	No.	No.	miles.	No.
Prince Ed. Island	989	1,444	4,062	58	6,553	7·6	6,551	118
Nova Scotia	10,374	21,791	11,452	958	44,575	8·1	86,483	920
New Brunswick	8,408	17,154	7,791	557	33,910	8·1	59,351	820
Quebec	89,164	167,447	29,842	6,900	293,353	10·9	1,049,477	7,465
Ontario	153,348	336,989	119,137	10,106	619,580	18·9	1,991,378	12,016
Manitoba	22,452	39,466	15,416	1,945	79,279	11·9	305,375	1,150
Saskatchewan	19,569	22,663	73,810	425	116,467	13·4	364,994	847[1]
Alberta	23,126	34,809	21,508	830	80,273	12·4	281,616	1,449
British Columbia	38,988	82,123	3,613	1,137	125,861	21·2	330,422	2,674
Yukon	–	115	20	–	135	4·5	566	–
Totals	**366,418**	**724,001**	**286,651**	**22,916**	**1,399,986**	**14·3**	**4,476,213**	**26,459**

[1] Excluding employees on rural lines.

76.—Telephones in Use, Mileage of Wire and Number of Employees, 1911-1929.[1]

Year.	Telephones in Use.						Mileage of Wire.	Employees.[2]
	Business.	Residential.	Rural.	Public Pay.	Total.	Per 100 Population.		
	No.	No.	No.	No.	No.	No.	miles.	No.
1911	–	–	–	–	302,759	4·2	687,782	10,425
1912	–	–	–	–	370,884	5·0	889,572	12,783
1913	–	–	–	–	463,671	6·2	1,092,587	12,867
1914	–	–	–	–	521,144	6·8	1,343,090	16,799
1915	–	–	–	–	533,090	6·8	1,452,360	15,072
1916	–	–	–	–	548,421	6·8	1,600,534	15,247
1917	–	–	–	–	604,136	7·4	1,708,203	16,490
1918	–	–	–	–	662,330	8·0	1,848,466	17,336
1919	–	–	–	–	778,758	9·2	2,105,240	20,491
1920	260,481	390,930	204,855	–	856,266	9·9	2,105,101	21,187
1921	273,498	396,384	232,208	–	902,090	10·3	2,268,271	19,943
1922	281,535	414,887	247,607	–	944,029	10·6	2,396,805	19,321
1923	303,660	444,300	261,360	–	1,009,320	11·1	2,574,083	21,002
1924	281,108	509,928	265,509	15,909	1,072,454	11·6	2,765,722	21,685
1925	297,875	556,837	268,807	19,357	1,142,876	12·2	3,020,773	21,831
1926	311,557	597,429	270,686	21,336	1,201,008	12·8	3,306,214	23,083
1927	324,425	637,536	275,544	22,482	1,259,987	13·2	3,591,035	23,437
1928	345,771	684,820	280,878	23,075	1,334,534	13·8	3,982,867	24,373
1929	356,418	724,001	286,651	22,916	1,399,986	14·3	4,476,213	27,459

[1] Figures for the years 1911-18 are from July 1 to June 30; those for the years 1919-1929 are from Jan. 1 to Dec. 31.

[2] Excluding employees on rural lines in Saskatchewan.

77.—Financial Statistics of Canadian Telephone Companies for the years 1912-1929.[1]

Year.	Capital Stock.	Funded Debt.	Cost of Property and Equipment.	Salaries and Wages.[2]	Gross Revenue.	Operating Expenses.	Net Operating Revenue.
	$	$	$	$	$	$	$
1912	21,533,605	24,743,247	56,887,799	2,659,642	12,273,627	9,094,689	3,178,938
1913	26,590,501	33,256,503	69,214,971	6,839,309	14,897,278	11,175,689	3,721,589
1914	28,644,340	41,647,554	80,258,356	8,250,253	17,297,269	12,882,402	4,414,867
1915	28,947,122	45,337,869	83,792,583	8,357,029	17,601,673	12,836,715	6,764,958
1916	29,416,956	47,503,358	88,520,021	7,852,719	18,594,268	11,147,201	7,447,067
1917	29,476,367	49,645,335	94,469,534	8,882,593	20,122,282	12,095,426	8,026,856
1918	29,803,090	55,471,601	104,368,627	10,410,807	22,753,280	13,644,524	9,108,756
1919	35,227,233	65,360,600	125,017,222	15,774,586	29,401,006	20,081,436	9,319,570
1920	36,149,838	80,539,367	144,560,969	17,294,405	33,473,712	28,044,401	5,429,311
1921	42,194,426	90,343,345	158,678,229	19,000,422	36,986,913	30,080,035	6,906,878
1922	48,938,198	94,833,825	167,332,932	17,305,759	39,559,149	29,966,181	9,592,968
1923	57,336,675	95,303,347	179,002,152	18,182,429	42,132,959	32,390,370	10,266,285
1924	63,798,133	96,216,887	193,884,378	18,293,234	44,322,598	33,615,686	10,706,912
1925	65,514,130	102,653,161	210,535,795	19,106,383	47,233,617	35,566,947	11,666,670
1926	68,345,999	110,805,099	227,155,900	25,219,493	50,522,859	38,141,360	12,381,499
1927	76,460,540	115,981,955	243,999,135	26,254,605	56,907,338	48,561,916	8,345,422
1928	85,913,239	121,528,627	263,201,651	28,501,378	61,791,333	51,542,544	10,248,789
1929	93,737,979	141,205,328	291,589,148	31,672,277	65,240,610	56,559,517	8,681,093

[1] Figures for the years 1912-1918 are from July 1 to June 30; those for the years 1919-1929 are from Jan. 1 to Dec. 31.

[2] Includes salaries and wages chargeable to capital accounts.

PART XII.—THE POST OFFICE.

Historical.—A postal service was established between Montreal and Quebec as early as 1721, official messengers and other travellers making a practice of carrying letters for private persons. When Canada came under British rule the Post Office was placed on a settled footing by Benjamin Franklin, then Deputy Postmaster-General for the American colonies, who visited Canada in 1763, opened post offices at Quebec, Montreal and Three Rivers, and also established courier communication between Montreal and New York. Since 1755 Halifax had had a post office and direct postal communication with Great Britain.

As a consequence of the American Revolution and the resulting isolation of Canada from Nova Scotia the first exclusively Canadian postal service, a monthly courier route from Halifax to Quebec, was established in 1788, involva seven weeks' trip and expenses of about £200 of which only one-third was met by postal charges. Up to 1804 the postal facilities of Upper Canada consisted of one regular trip by courier each winter with whatever mail might reach Montreal during the season of navigation. Charges were necessarily high, $1.12 being paid on ordinary letters from London to Toronto *via* Halifax.

The first post office in Toronto was opened about 1800. By 1816 there were 19 offices in the two Canadas, and by 1827 this number had increased to 114. At this time the system consisted primarily of a trunk line of communication between Halifax, Quebec, Montreal, Toronto and Amherstburg, over which couriers travelled at varying intervals. Branching off this line were routes to Sorel, Sherbrooke, St. Johns, Hull, Hawkesbury, Perth and Richmond, with most deliveries made once or twice a week.

Hitherto the Post Office had been under the control of the Imperial Department, but considerable agitation resulted in the service being transferred on April 6, 1851, to the several provinces. Only enough mutual control was maintained to insure the continuance of Imperial and intercolonial services. The provinces had complete jurisdiction over the establishment and maintenance of systems and rates.

At Confederation the provincial systems were transferred to the Dominion. The Post Office Act of 1867 established a service throughout Canada. The domestic rate on letters was reduced from 5 to 3 cents per half-ounce, and in 1870 the rates to the United States and Great Britain were reduced from 10 to 6 cents and from 12½ to 6 cents respectively per half-ounce. In 1875 a convention between Canada and the United States reduced postal rates between the countries to the domestic level. In 1878, on the admission of Canada to the Postal Union, letter postage to the countries of the Postal Union was reduced to 5 cents per half-ounce. After a conference in 1897 Imperial penny postage (2 cents per half-ounce) was established on Dec. 25, 1898, while the domestic rate was reduced from 3 to 2 cents per ounce. These rates were maintained until 1915, when a 1-cent war tax was imposed on all pay letters and post cards (except where this would be in violation of international agreements), and also on postal notes. Later the rate to Great Britain was increased to 4 cents on the first and 3 cents on succeeding ounces, while that to Postal Union countries was raised to 10 cents on the first and 5 cents on succeeding ounces.

Penny postage again became effective for Canada, the United States, Newfoundland and other countries of the continent of North America on July 1, 1926, and for Great Britain and all other places within the British Empire on Dec. 25, 1928. On May 24, 1929, penny postage became effective to France and, on Dec. 25, 1929, was extended to all places in South America. For these countries the rate is 2 cents per ounce, while for other Postal Union countries it is 5 cents on the first ounce and 3 cents on succeeding ounces. In spite of reductions of from 33 p.c. to 50 p.c. represented by these changes, the first of which were effective for 9 months of the fiscal year 1927, Table **80** shows a comparatively small reduction in the net revenue of the Post Office Department in that year. However, in the fiscal year 1930, during the whole of which penny postage was in effect for inland post for the countries of North America and for all places in the Empire, as well as for France and South America during part of the year, the net revenue of the Department increased $3,500,000 over that of 1927. The effect of the reduction in rates was offset by increases in postal business.

In its per capita use of the mails Canada takes a high place. In 1868, the year following Confederation, the average postal expenditure for each member of the population was less than 27 cents, whereas during 1930 each person in Canada expended approximately $3.70. This is more remarkable when it is considered that rates of postage have decreased greatly during this period.

The Post Office Department is administered by the Postmaster-General. Besides the several administrative branches at Ottawa, the Dominion is divided into 15 districts, each in charge of a Superintendent of Postal Service. The Canadian system embraces a territory more extensive than that served by any other system, excepting those of the United States and Russia, though the sparsity of population and the comparative lack of development make inevitable a peculiarly difficult and expensive service.

Rural Mail Delivery.—A system of rural mail delivery was inaugurated in Canada on Oct. 10, 1908, limited at that time to existing stage routes, persons residing on such routes being entitled to have mail boxes put up in which the mail carrier was to deposit mail matter and from which he was to collect mail matter and carry it to the post office. As a consequence of the public approval of this scheme new regulations, taking effect on April 1, 1912, made all persons residing in rural districts along and contiguous to well-defined main thoroughfares of one mile and upwards eligible to receive their mail in this manner, while couriers on rural mail routes were also required to sell postage stamps and take applications, and accept money for, money orders and postal notes. The result has been an increase in the number of rural routes from approximately 900 in 1912 to 4,210 in 1930, having 237,351 mail boxes as against approximately 25,000 in 1912. The establishment of these routes has been an important factor in the amelioration of the conditions of Canadian rural life.

Statistics.[1]—Tables **78** to **80** show the number of post offices in operation in Canada in the latest six years, the gross revenue in all offices collecting $10,000 and upwards in 1929 and 1930, and the net revenue and expenditure of the Department in various years since 1890.

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[1] Revised, as to financial transactions, by H. E. Atwater, Financial Superintendent, Post Office Department.

78.—Number of Post Offices in Operation, by Provinces, Mar. 31, 1925-1930.

Province.	1925.	1926.	1927.	1928.	1929.	1930.
Prince Edward Island	130	131	130	128	127	126
Nova Scotia	1,793	1,791	1,778	1,771	1,770	1,762
New Brunswick	1,126	1,119	1,113	1,114	1,079	1,062
Quebec	2,396	2,429	2,463	2,514	2,528	2,519
Ontario	2,588	2,613	2,614	2,604	2,586	2,575
Manitoba	813	818	817	817	816	815
Saskatchewan	1,414	1,433	1,428	1,428	1,423	1,430
Alberta	1,211	1,203	1,195	1,200	1,189	1,191
British Columbia	871	868	867	866	876	892
Yukon Territory	19	20	20	20	20	20
Northwest Territories	15	14	15	16	16	17
Totals	**12,376**	**12,439**	**12,440**	**12,478**	**12,430**	**12,409**

79.—Statistics of Gross Postal Revenue of Offices Collecting $10,000 and upwards for the fiscal years ended Mar. 31, 1929 and 1930.

Name of Post Office.	1929.	1930.
	$	$
P.E. Island.		
Charlottetown	61,596	64,554
Summerside	19,074	20,510
Totals for Province	**150,313**	**169,057**
Nova Scotia.		
Amherst	30,509	30,703
Antigonish	13,152	13,162
Bridgewater	16,304	17,336
Digby	9,793	10,717
Glace Bay	17,374	17,576
Halifax	468,178	504,434
Kentville	17,846	17,809
Liverpool	12,170	16,993
Lunenburg	13,053	13,591
New Glasgow	35,584	37,717
North Sydney	17,899	17,375
Pictou	12,414	12,872
Springhill	13,254	14,810
Stellarton	10,734	10,896
Sydney	65,276	68,169
Sydney Mines	10,009	9,918
Truro	52,970	52,739
Windsor	16,784	17,777
Wolfville	13,490	14,118
Yarmouth	27,764	29,636
Totals for Province	**1,335,023**	**1,417,663**
New Brunswick.		
Bathurst	12,893	13,103
Campbellton	22,236	24,761
Chatham	13,083	13,399
Dalhousie	6,242	11,484
Edmundston	17,475	17,836
Fredericton	71,070	74,550
Moncton	510,842	555,125
Newcastle	12,146	12,371
Saint John	258,786	271,035
St. Stephen	17,223	18,803
Sackville	17,848	18,524
Sussex	15,657	17,215
Woodstock	20,029	20,745
Totals for Province	**1,310,742**	**1,462,374**
Quebec.		
Amos	12,012	10,836
Chicoutimi	35,673	36,211
Coaticook	12,421	12,647
Drummondville East	16,721	19,516
Farnham	10,245	11,338
Gardenvale	8,821	11,000
Granby	22,786	24,155
Hull	26,715	27,830
Joliette	19,855	21,343
Jonquières	11,939	11,225
Kenogami	11,894	11,682
La Tuque	10,636	12,061
Lévis	21,012	22,779
Magog	11,125	11,792
Montmagny	9,747	10,726
Montreal	4,511,389	4,933,564
Quebec	593,321	619,001
Rimouski	14,058	15,373
Rouyn	12,706	10,947
Ste. Agathe des Monts	10,471	11,462
St. Hyacinthe	33,926	35,823
St. Johns	24,072	28,474
St. Jérôme	12,989	15,956
Shawinigan Falls	27,493	28,840
Sherbrooke	109,730	119,304
Sorel	12,561	14,369
Thetford Mines	19,073	21,094
Three Rivers	74,539	78,564
Valleyfield	12,327	12,953
Victoriaville	16,287	18,489
Totals for Province	**7,148,650**	**7,799,962**
Ontario.		
Amherstburg	10,239	11,369
Arnprior	15,022	14,964
Aurora	14,288	15,598
Aylmer West	12,980	12,671
Barrie	27,698	28,622
Belleville	62,400	66,015
Bowmanville	13,765	13,496
Bracebridge	13,741	13,674
Brampton	23,465	24,534
Brantford	144,994	146,399
Bridgeburg	23,780	24,611
Brockville	46,582	48,627
Campbellford	9,919	10,093
Carleton Place	16,294	16,254
Chatham	65,589	68,763
Cobalt	29,487	21,644

79.—Statistics of Gross Postal Revenue of Offices Collecting $10,000 and upwards for the fiscal years ended March 31, 1929 and 1930—continued.

Name of Post Office.	1929.	1930.
	$	$
Ontario—concluded.		
Cobourg	33,572	43,780
Cochrane	17,914	17,454
Collingwood	20,135	20,837
Copper Cliff	6,832	12,654
Cornwall	40,889	40,919
Dundas	15,282	16,159
Dunnville	18,724	20,343
Fergus	15,382	16,392
Fort Frances	21,137	21,094
Fort William	87,636	80,445
Galt	64,519	66,457
Gananoque	18,870	19,396
Georgetown	9,937	10,831
Goderich	16,830	16,986
Gravenhurst	9,750	10,701
Grimsby	12,456	12,119
Guelph	102,019	101,567
Haileybury	12,406	12,208
Hamilton	588,842	645,694
Hanover	13,557	14,187
Hawkesbury	10,679	10,884
Hespeler	9,343	10,463
Huntsville	14,764	14,775
Ingersoll	24,628	24,163
Kapuskasing	17,937	15,016
Kenora	24,755	24,859
Kincardine	14,595	14,059
Kingston	107,539	110,695
Kingsville	9,809	10,018
Kirkland Lake	25,918	25,329
Kitchener	120,500	134,173
Leamington	19,786	20,075
Lindsay	33,940	35,229
Listowel	15,095	15,674
London	500,379	537,324
Meaford	9,803	10,281
Midland	21,742	21,419
Napanee	19,221	19,840
New Liskeard	18,949	18,820
Newmarket	15,445	16,279
New Toronto	30,324	22,937
Niagara Falls	138,723	145,267
North Bay	58,974	63,183
Oakville	17,200	16,902
Orangeville	11,410	11,724
Orillia	40,812	42,250
Oshawa	113,341	112,172
Ottawa	631,412	653,419
Owen Sound	48,611	50,525
Paris	31,023	24,988
Parry Sound	14,730	15,025
Pembroke	33,451	33,023
Perth	26,395	27,984
Peterborough	109,181	120,646
Petrolia	12,725	12,788
Picton	16,856	17,510
Port Arthur	62,318	59,265
Port Colborne	25,626	28,765
Port Hope	21,222	21,088
Prescott	14,165	16,213
Preston	21,961	23,094
Renfrew	24,978	26,668
St. Catharines	94,943	103,692
St. Marys	17,221	16,932
St. Thomas	63,754	66,339
Sarnia	63,453	65,525
Sault Ste. Marie	67,074	70,020
Simcoe	31,129	34,772
Smiths Falls	27,019	27,354
Stratford	64,954	66,850
Strathroy	12,517	12,900
Sudbury	63,676	79,747
Thorold	11,866	12,191
Tillsonburg	14,110	14,753
Timmins	37,787	33,791
Toronto	6,953,828	7,134,172
Trenton	19,241	20,443
Walkerton	11,387	11,381
Wallaceburg	13,899	14,521
Waterloo	41,077	43,311
Welland	40,841	42,816
Weston	20,535	23,069
Whitby	13,923	14,599
Windsor	442,497	485,512
Wingham	11,721	11,756
Woodstock	55,651	59,407
Totals for Province	**14,292,868**	**14,764,298**
Manitoba.		
Brandon	107,270	109,977
Dauphin	21,559	22,800
Neepawa	11,468	11,156
Portage la Prairie	28,393	28,712
St. Boniface	15,936	20,750
The Pas	26,910	25,526
Virden	10,787	10,582
Winnipeg	3,665,522	3,672,536
Totals for Province	**4,454,547**	**4,484,988**
Saskatchewan.		
Assiniboia	12,439	11,463
Biggar	11,195	11,413
Estevan	19,381	19,747
Humboldt	11,497	12,284
Lloydminster	14,726	13,837
Maple Creek	10,860	10,692
Melfort	14,973	15,417
Melville	15,765	14,914
Moose Jaw	140,047	134,986
North Battleford	29,107	29,956
Prince Albert	46,248	52,148
Regina	932,892	933,144
Rosetown	11,203	11,705
Saskatoon	346,800	373,486
Shaunavon	13,851	14,517
Swift Current	35,396	39,186
Tisdale	8,797	10,480
Weyburn	32,220	30,223
Yorkton	31,534	33,320
Totals for Province	**3,103,373**	**3,092,497**
Alberta.		
Banff	20,030	19,708
Calgary	664,196	699,182
Camrose	16,653	15,646
Drumheller	22,018	21,970
Edmonton	511,686	541,387
Grand Prairie	10,804	12,172
Hanna	10,814	10,326
Lacombe	10,728	11,086
Lethbridge	73,992	76,830
Medicine Hat	44,100	43,796
Red Deer	19,333	19,307
Stettler	10,835	10,030
Vegreville	12,018	11,083
Vermilion	10,858	10,030
Wetaskiwin	13,366	14,230
Totals for Province	**2,362,824**	**2,429,178**

79.—Statistics of Gross Postal Revenue of Offices Collecting $10,000 and upwards for the fiscal years ended Mar. 31, 1929 and 1930—concluded.

Name of Post Office.	1929.	1930.
	$	$
British Columbia.		
Chilliwack	15,736	17,050
Cranbrook	21,264	22,313
Duncan	19,335	19,772
Fernie	16,477	16,642
Kamloops	33,253	35,086
Kelowna	22,464	23,847
Kimberley	8,829	10,023
Nanaimo	28,998	30,114
Nelson	41,654	43,997
New Westminster	82,811	92,794
Penticton	19,188	20,042
Port Alberni	10,257	11,119
Powell River	12,330	13,494
Prince George	13,916	14,328
Prince Rupert	34,375	36,023
Revelstoke	16,777	16,629
Trail	26,444	29,192
Vancouver	1,404,441	1,487,585
Vernon	28,732	31,159
Victoria	288,907	297,264
Totals for Province	**2,707,811**	**2,871,639**
Yukon.		
Totals for Yukon	**13,117**	**12,934**
Summary.		
Prince Edward Island	150,313	160,057
Nova Scotia	1,335,023	1,417,663
New Brunswick	1,310,742	1,402,374
Quebec	7,148,650	7,799,962
Ontario	14,292,868	14,764,298
Manitoba	4,454,547	4,484,988
Saskatchewan	3,103,373	3,092,497
Alberta	2,362,824	2,429,178
British Columbia	2,707,811	2,871,639
Yukon	13,117	12,934
Totals for Canada	**36,879,268**	**38,435,590**

80.—Revenue and Expenditure of the Post Office Department for the quinquennial fiscal years ended 1890-1910, and for the fiscal years ended Mar. 31, 1911-1930.

NOTE.—For all other years, see 1911 Year Book, p. 288.

Fiscal Year.	Net Revenue.[1]	Expenditure.	Deficit.	Surplus.
	$	$	$	$
1890	2,357,389	3,074,470	717,081	-
1895	2,729,790	3,593,647	800,857	-
1900	3,183,984	3,645,646	461,662	-
1905	5,125,373	4,634,528	-	490,845
1910	7,958,547	7,215,337	-	743,210
1911	9,146,952	7,954,223	-	1,192,729
1912	10,482,255	9,172,035	-	1,310,220
1913	12,060,476	10,882,805	-	1,177,671
1914	12,956,216	12,822,058	-	134,158
1915	13,046,650	15,961,191	2,914,541	-
1916	18,858,410	16,009,139	-	2,849,271
1917	20,902,384	16,300,579	-	4,601,805
1918	21,345,394	18,046,558	-	3,298,836
1919	21,602,713	19,273,584	-	2,329,129
1920	24,449,917	20,774,385	-	3,675,532
1921	26,331,119	24,661,262	-	1,669,857
1922	26,554,538	28,121,425	1,566,887	-
1923	29,262,233	27,794,502	-	1,467,731
1924	29,100,492	28,305,937	-	794,555
1925	28,581,993	29,873,802	1,291,809	-
1926	31,024,464	30,499,686	-	524,778
1927	29,378,697	31,007,698	1,629,001	-
1928	30,529,155	32,379,196	1,850,041	-
1929	31,170,904	33,483,058	2,312,154	-
1930	32,969,293	35,036,629	2,067,336	-

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[1] "Net revenue" is exclusive of salaries and allowances to postmasters and some other smaller items. The gross revenue in the fiscal year ended Mar. 31, 1930, was $39,984,126.

Auxiliary Services.—The auxiliary postal services—the issuing of money orders (including postal notes) and the facilities offered by the Post Office savings banks—have expanded enormously since Confederation. In 1868, for example, there were 515 money order offices in operation, issuing orders to an amount of $3,342,574. In 1930 the number of offices had increased to 6,209, while the value of orders issued was 60 times as large as in the earlier year. In the following tables, illustrating the use of money orders and postal notes, it will also be noticed that the large number of 17,525,979 money orders, representing a value of $197,699,353, was issued during 1930. The number of postal notes received and paid was 8,466,055, with a value of $15,578,489. It may be added that postal notes are issued payable to bearer and are in general use for the transfer of small sums, but money orders, on the other hand, are payable to order at a designated post office. Statistical tables showing deposits with the Government saving banks since Confederation and combined business of Post Office and Dominion Government savings banks, 1925-30, are included in the chapter on Currency and Banking. (See pp. 914-5).

81.—Operation of the Money Order System in Canada, fiscal years ended June 30, 1901-1906, and Mar. 31, 1907-1930.

NOTE.—For 1868 to 1900, see Canada Year Book, 1911, p. 289.

Fiscal Year.	Money Order Offices in Canada.	Orders Issued in Canada.	Value of Orders Issued in Canada.	Payable in—		Value of Orders Issued in Other Countries, Payable in Canada.
				Canada.	Other Countries.	
	No.	No.	$	$	$	$
1901	1,904	1,151,024	17,956,258	14,324,289	3,631,969	2,592,845
1902	2,066	1,446,129	23,549,402	18,423,035	5,126,367	3,575,803
1903	2,125	1,668,705	26,868,202	20,761,078	6,107,124	4,604,528
1904	2,214	1,869,233	29,652,811	21,706,474	7,946,337	5,197,122
1905	2,494	1,924,130	32,349,476	23,410,485	8,938,991	5,602,257
1906	2,676	2,178,549	37,355,673	26,133,565	11,222,108	6,533,201
1907 (9 mos.)	2,789	1,845,278	32,160,098	21,958,855	10,201,243	5,393,042
1908	2,918	2,990,691	49,974,007	31,836,629	18,137,378	7,933,361
1909	3,114	3,596,299	52,627,770	36,577,552	16,050,218	7,794,751
1910	3,311	4,178,752	60,967,162	41,595,205	19,371,957	8,048,467
1911	3,501	4,840,896	70,614,862	45,451,425	25,163,437	8,664,557
1912	3,673	5,777,757	84,065,891	52,568,433	31,497,458	8,712,667
1913	3,923	8,688,563	101,153,272	61,324,030	39,829,242	9,081,627
1914	4,274	7,227,964	109,500,670	66,113,221	43,387,449	9,807,313
1915	4,499	6,990,813	89,957,906	64,723,941	25,233,965	9,707,383
1916	4,690	7,171,375	94,469,871	75,781,582	18,688,289	9,868,137
1917	4,810	8,698,502	119,695,535	97,263,961	22,431,574	9,704,610
1918	4,930	9,919,665	142,959,167	116,764,491	26,194,676	9,385,627
1919	4,953	9,100,707	142,375,809	116,646,096	25,729,713	10,351,021
1920	5,106	9,947,018	159,224,937	135,201,816	24,023,121	10,050,361
1921	5,197	11,013,167	173,523,322	155,916,232	17,607,090	6,680,971
1922	5,266	10,031,198	139,914,186	124,316,726	15,597,460	5,515,069
1923	5,337	11,098,222	143,055,120	126,617,350	16,437,770	8,986,041
1924	5,472	12,561,490	159,855,115	141,620,372	18,234,743	13,508,396
1925	5,578	13,435,448	163,519,320	145,769,761	17,749,559	13,957,613
1926	5,706	14,784,230	177,840,231	158,844,831	18,995,400	15,600,917
1927	5,797	15,760,994	188,219,777	167,206,859	21,012,918	15,532,673
1928	5,923	17,505,563	200,773,403	177,880,036	22,893,367	15,398,181
1929	6,066	17,210,316	203,129,237	179,833,100	23,296,138	14,096,027
1930	6,209	17,525,979	197,699,353	174,285,024	23,414,329	14,016,240

Attention may be drawn to the difference between the value of orders issued in Canada and payable in other countries and those issued elsewhere payable in Canada. This difference (about $9,398,000 in 1930 and about $33,580,000 in 1914) represents to a large extent remittances made by immigrants and to travellers in foreign countries. It is an indication, at least, of the large amounts sent out from Canada, and is an essential figure in the computation of our balance of trade.

82.—Money Orders, by Provinces, and Total Postal Notes, fiscal years ended Mar. 31, 1926-1930.

Province.	1926.	1927.	1928.	1929.	1930.
Money Order Offices in—	No.	No.	No.	No.	No.
Canada	**5,706**	**5,797**	**5,923**	**6,066**	**6,209**
Prince Edward Island	67	68	68	68	70
Nova Scotia	376	382	385	387	400
New Brunswick	266	269	284	281	285
Quebec	1,218	1,237	1,254	1,291	1,330
Ontario	1,614	1,632	1,653	1,676	1,681
Manitoba	380	391	402	414	435
Saskatchewan	769	779	805	833	853
Alberta	541	555	577	609	643
British Columbia	470	478	487	499	505
Yukon Territory	5	6	8	8	7
Money Orders Issued in—					
Canada	**11,784,200**	**15,760,994**	**17,505,563**	**17,210,316**	**17,525,979**
Prince Edward Island	109,072	120,521	132,449	133,302	151,000
Nova Scotia	959,404	1,020,974	1,082,898	1,082,210	1,177,126
New Brunswick	562,454	599,785	625,937	658,700	726,631
Quebec	2,020,164	2,250,437	2,680,292	2,614,493	2,859,337
Ontario	4,354,157	4,589,798	4,814,717	4,674,538	4,813,685
Manitoba	1,042,751	1,134,566	1,251,054	1,240,124	1,240,430
Saskatchewan	2,853,667	2,994,600	3,476,742	3,280,063	3,057,750
Alberta	1,754,065	1,851,985	2,128,610	2,149,257	2,056,748
British Columbia	1,119,514	1,188,970	1,302,149	1,365,931	1,431,630
Yukon Territory	8,952	9,358	10,715	11,698	11,642
Receipts for Money Orders Issued in —	$	$	$	$	$
Canada	**177,840,230**	**188,219,778**	**200,773,403**	**203,129,237**	**197,699,353**
Prince Edward Island	1,314,360	1,459,751	1,558,411	1,577,370	1,711,244
Nova Scotia	10,436,131	11,093,311	11,498,537	11,755,770	12,746,149
New Brunswick	6,638,410	7,057,262	7,272,069	7,508,412	8,236,195
Quebec	23,145,950	25,869,584	27,320,599	27,915,322	29,319,688
Ontario	49,243,261	52,035,548	53,329,608	53,392,573	53,684,637
Manitoba	12,506,314	13,708,401	14,024,147	14,362,604	13,771,051
Saskatchewan	37,639,210	38,338,614	41,740,502	41,087,022	35,195,400
Alberta	22,286,484	23,327,673	27,807,168	28,505,695	25,212,265
British Columbia	14,436,505	15,124,890	15,986,960	16,764,171	17,570,154
Yukon Territory	193,605	204,744	235,401	260,298	252,565
Money Orders Paid in—	No.	No.	No.	No.	No.
Canada	**13,671,206**	**14,531,587**	**15,576,988**	**15,928,705**	**16,261,451**
Prince Edward Island	44,799	45,996	46,171	50,295	55,522
Nova Scotia	583,247	610,237	628,956	641,589	670,986
New Brunswick	890,121	1,019,185	1,091,069	1,045,897	1,148,453
Quebec	1,445,221	1,696,197	1,898,228	2,372,736	2,760,896
Ontario	4,841,161	5,153,755	5,177,944	4,929,503	4,886,156
Manitoba	3,157,140	3,145,486	3,469,756	3,462,363	3,337,598
Saskatchewan	1,556,973	1,650,023	1,890,988	1,957,848	1,833,069
Alberta	602,717	613,617	718,610	767,880	831,021
British Columbia	548,709	595,953	654,089	699,147	736,320
Yukon Territory	1,118	1,138	1,177	1,447	1,430

82.—Money Orders, by Provinces, and Total Postal Notes, fiscal years ended Mar. 31, 1926-1930—concluded.

Province.	1926.	1927.	1928.	1929.	1930.
	No.	No.	No.	No.	No.
Receipts for Money Orders Paid in—	$	$	$	$	$
Canada	**174,567,687**	**183,192,237**	**192,416,980**	**192,439,720**	**189,558,749**
Prince Edward Island	839,312	861,106	882,195	922,183	962,828
Nova Scotia	7,576,330	7,890,684	7,962,408	8,123,644	8,615,554
New Brunswick	11,572,570	12,062,877	12,157,500	11,896,720	12,492,358
Quebec	19,421,896	22,009,406	23,235,516	27,166,302	30,400,388
Ontario	56,418,617	59,382,950	60,099,268	55,864,338	54,669,931
Manitoba	38,633,180	39,240,302	40,905,097	39,171,978	35,474,587
Saskatchewan	20,182,252	20,930,351	23,908,547	24,484,599	21,527,686
Alberta	10,480,898	10,822,206	12,581,954	13,610,889	13,784,609
British Columbia	9,416,130	9,952,841	10,650,011	11,162,557	11,595,062
Yukon Territory	26,501	30,515	34,485	36,509	35,741
Postal Notes—					
Total notes received and paid......No.	6,821,378	7,197,896	7,490,169	7,912,970	8,466,055
Total value, including postage stamps affixed............ $	15,340,056	16,183,119	16,673,633	16,670,112	15,578,489
Commission received............ $	163,918	176,440	179,487	184,309	188,098

Postage Stamps.—The value of the postage stamps, post cards, etc., sold during each of the latest five fiscal years, as shown in the statement of revenue in the Postmaster General's reports, was as follows: $30,166,763 in 1926, $26,226,473 in 1927, $26,200,776 in 1928, $26,475,541 in 1929, and $27,101,353 in 1930. The decrease in the value of the stamps sold in recent years as compared with 1926 is no doubt partly due to the reduced rates which have become effective, but another factor is the rapidly increasing use of devices for prepaying postage in cash. Receipts from this source were as follows: $3,895,185 in 1926, $6,068,722 in 1927, $7,467,611 in 1928, $8,410,255 in 1929 and $9,045,805 in 1930.

Air Mail Services.—The air mail service inaugurated about Christmas 1927 has developed rapidly. In the first year of operation, 1927-28, the mileage flown was 9,538 and the weight of mail carried, 38,484 lb.; for 1928-29 the figures were 308,161 miles and 321,584 lb.; and during 1929-30, 688,219 miles were flown and 425,280 lb. of mail carried. The proportion of mail carried to miles flown has decreased each year, owing to the extension of the service to new and relatively thinly populated areas which have not enjoyed a frequent mail service in the past. Apart from the fact that these services will build up in the course of time, the benefits accruing to Canadians in isolated communities are sufficient to warrant such expansion of the service as has been made.

In December, 1929, the air mail route between Fort McMurray, Alta., and Aklavik, N.W.T., was inaugurated. This route extends for 1,676 miles down the Athabaska, Slave and Mackenzie rivers to a point nearly 300 miles within the Arctic Circle. Remarkable regularity and dispatch have characterized the service. New mining camps of northern Ontario and Quebec were also linked up by air mail in December, 1929.

The principal development of 1930 has been the organization of a daily air mail service between Winnipeg and Calgary *via* Moose Jaw, Regina, and Medicine Hat, with a northern link to Saskatoon, North Battleford and Edmonton. This service expedites the transcontinental movement of mails by 24 hours.

The following statement, from the Annual Report of the Postmaster General, shows mileage flown and weight of mails carried by air during the fiscal year ended Mar. 31, 1930.

83.—Mileage Flown and Weight of Mails Carried by Air, fiscal year ended Mar. 31, 1930.

Route.	Distance.	Single Trips Scheduled.	Trips Made.	Total Distance Flown.	Weight of Mail Carried.
	miles.	No.	No.	miles.	lb.
Lac du Bonnet and Bissett	82	48	48	3,936	18,926
Montreal—Rimouski	330	124	112	35,560	68,672
Montreal—Ottawa	110	62	51	5,610	2,801
Montreal—Detroit	557½	446	423	216,952	24,761
Montreal—Albany	200	313	293	52,817	20,444
Narrow lake—Sioux Lookout	162½	164	164	26,790	73,827
The Pas—Kississing, superseded by Cranberry Portage—Kississing	45	96	96	4,650	30,878
Leamington—Pelee island	22	220	198	4,356	21,967
Quebec—Seven islands	345	74	74	25,530	26,791
Seven islands—Anticosti	120	18	10	1,200	4,181
Moncton—Charlottetown *via* Summerside on eastbound trip.	Eastbound 100 Westbound 80	86	71	6,265	28,836
Moncton—Magdalen islands	200	24	22	4,000	8,154
Special flights	Varied.	Varied.	58	10,758	13,540
Montreal—Saint John *via* Moncton and Quebec	613	80	69	34,297	1,940
Montreal—Moncton *via* Saint John	467	92	80	32,526	1,350
Oskelaneo—Chibougamau	130	30	26	3,380	989
Winnipeg—Calgary	770	180	173	82,653	8,274
Regina—Edmonton *via* Moose Jaw	509				
Montreal—Toronto	330	180	164	53,596	7,140
Toronto—Buffalo	100	237	212	21,152	36,721
Montreal—Quebec	134	110	101	13,065	431
MACKENZIE RIVER SERVICE.—					
Ft. McMurray—Ft. Smith	1,676	67[1]	58	49,126	24,657
Ft. Smith—Ft. Resolution		34[1]	43		
Ft. Resolution—Ft. Simpson		10[1]	19		
Ft. Simpson—Aklavik		5[1]	8		
Totals	-	-	-	**688,219**	**425,280**

[1] Minimum trips scheduled.

Subsidies, etc.—The conveyance of mail by land, water and air entailed a total expenditure of $15,525,812 during 1930. Land transportation (largely that by rural delivery) cost $6,554,150; railway carriage cost $7,804,999; conveyance by steamship cost $532,793, while that by air cost $633,870. These amounts were paid solely for services rendered as carriers. In addition, however, considerable mail is carried, on both the Atlantic and Pacific coasts, by steamships and steamship lines which are especially subsidized by the Government. Table **84**, showing amounts so paid in 1928, 1929 and 1930, follows:—

84.—Mail Subsidies and Steamship Subventions, fiscal years ended Mar. 31, 1928-1930.

NOTE.—The figures in the following table were kindly supplied by F. E. Bawden, Esq., Secretary, Dept. of Trade and Commerce. They appear annually in the "Public Accounts", issued by the Finance Department and represent the amounts paid in connection with contracts made under statutory authority by the Department of Trade and Commerce for trade services, including the conveyance of mails.

Service.	1928.	1929.	1930.
	$	$	$
Atlantic Ocean—			
Canada and South Africa	100,000	125,000	114,583
Eastern Canada and Brazil, Uruguay and the Argentine	-	100,000	110,000
Pacific Ocean—			
British Columbia and Australia	-	-	61,600
Canada and New Zealand, on the Pacific	100,000	103,183	100,000
Prince Rupert, B.C., and the Queen Charlotte islands	21,000	21,000	21,000
Vancouver and the British West Indies	24,000	27,000	33,000
Vancouver and ports on Howe sound	5,000	5,000	5,000
Vancouver and northern ports of British Columbia	24,800	24,800	24,800
Victoria, Vancouver, way ports and Skagway	24,107	25,000	25,893
Victoria and west coast Vancouver island	15,000	15,000	15,000
Local Services—			
Baddeck and Iona	10,500	10,500	10,500
Charlottetown and Pictou	35,000	35,000	35,000
Charlottetown, Victoria and Holliday's Wharf	5,000	5,000	5,000
Dalhousie, N.B., and Carleton, Que	3,000	3,000	3,000
Grand Manan and the mainland	20,000	20,000	20,000
Halifax and bay St. Lawrence	2,400	2.400	4,800
Halifax, Canso and Guysboro	9,000	9,000	9,000
Halifax, LaHave and LaHave River ports	5,596	5,538	6,000
Halifax and Sherbrooke	-	1,500	1,500
Halifax, South Cape Breton and Bras d'Or Lake ports	5,000	5,000	5,000
Halifax, Spry Bay and Cape Breton ports	6,000	6,000	6,000
Halifax and west coast of Cape Breton	6,000	6,000	6,000
Mainland, Miscou and Shippegan	2,000	2,000	2,000
Mulgrave, Arichat and Petit de Grat	13,000	12,868	14,285
Mulgrave and Canso	27,400	27,400	27,400
Mulgrave and Guysborough, calling at intermediate ports	14,000	14,000	13,955
Murray Bay and north shore (winter service)	-	32,900	20,562
Newcastle, Neguac and Escuminac, calling at intermediate ports on the Miramichi river and bay	4,500	4,500	4,500
Parrsborough, Kingsport and Wolfville	5,000	5,000	5,000
Pelee island and the mainland	11,000	11,000	11,000
Pictou, Mulgrave and Cheticamp	11,000	11,000	11,000
Pictou, New Glasgow and Antigonish Co. ports	-	1,000	1,000
Pictou, Souris and the Magdalen islands	50,000	50,000	50,000
Port Mulgrave, St. Peter's, Irish cove, and Marble mountain	10,350	10,350	10,139
Quebec, Natashquan and Harrington, and other ports on the north shore of the gulf of St. Lawrence	85,000	85,000	85,000
Quebec or Montreal and Gaspé, and other ports on the south shore of the gulf of St. Lawrence	60,000	60,000	60,000
Rimouski and Pointe aux Outardes	7,500	10,000	12,500
Rivière du Loup and Tadoussac, and other north shore ports	13,021	15,000	14,625
St. Catherine's bay and Tadoussac	3,500	4,663	5,000
Saint John and Bear river, and other way ports	2,000	2,000	2,000
Saint John and Bridgetown	1,000	1,000	1,000
Saint John and Centreville	-	764	-
Saint John and Digby	15,000	15,000	15,000
Saint John, Digby, Annapolis and Granville	2,000	2,000	2,000
Saint John and Margaretville, and other ports on the bay of Fundy	3,500	4,500	4,500
Saint John and Minas Basin ports	5,000	5,000	5,000
Saint John and St. Andrews, calling at intermediate ports	4,000	4,000	4,000
Saint John, Westport and Yarmouth, and other way ports	15,000	18,000	18,000
Saint John and Weymouth	1,500	1,500	1,500
Summerville, Burlington and Windsor, N.S	467	500	500
Sydney and bay St. Lawrence, calling at way ports	18,000	18,000	18,000
Sydney and Bras d'Or Lake ports, and ports on the west coast of Cape Breton	18,000	18,000	18,000
Sydney and Whycocomagh	13,000	16,000	16,000
Trois Pistoles and Les Escoumains	-	1,000	-
Grant to the province of British Columbia for the improvement of the mail service on inland waters in that province	3,000	3,000	3,000
Inspection of subsidized steamship services	4,450	4,507	4,294
Totals	**844,591**	**1,026,375**	**1,083,436**

CHAPTER XIX.—LABOUR AND WAGES.[1]

PART I.—LABOUR.

Section 1.—Occupations of the People.

This section, formerly appearing in the Labour and Wages chapter of the Year Book, has been transferred to the Population chapter, where a fairly extended analysis of the occupations of the people in 1921 appeared at pp. 134-147 of the 1929 Year Book.

Section 2.—The Dominion Department of Labour.

The Department of Labour of the Dominion Government was established in 1900 under the authority of the Conciliation Act, 1900 (63-64 Vict., c. 24). Its chief duties originally comprised the administration of certain provisions of this Statute designed to aid in the prevention and settlement of labour disputes, the administration of the Government's fair wage policy for the protection of workmen employed on Dominion Government contracts and on works aided by grants of public funds, the collection and classification of statistical and other information relative to conditions of labour, and the publication of a monthly periodical known as the *Labour Gazette*. From 1900 to 1909 the Department was administered by the Postmaster-General, who was also Minister of Labour. It was constituted a separate Department under the Labour Department Act, 1909 (R.S.C. 1927, c. 111).

The work of the Department was greatly increased in 1907 by the passage of the Industrial Disputes Investigation Act (R.S.C. 1927, c. 112). At present the Department is also charged with the administration of an Act passed in 1918 known as the Employment Offices Co-ordination Act (R.S.C. 1927, c. 57), the Government Annuities Act of 1908 (R.S.C. 1927, c. 7), the Technical Education Act enacted in 1919 (R.S.C. 1927, c. 193), the White Phosphorus Matches Act of 1914 (R.S.C. 1927, c. 128), the Combines Investigation Act of 1923 (R.S.C. 1927, c. 26), the Old Age Pensions Act of 1927 (R.S.C. 1927, c. 156), the Fair Wages and Eight Hour Day Act of 1930 (20-21 Geo. V, c. 30), and the Unemployment Relief Act of 1930 (21 Geo. V, c. 1). The scope of the Department has increased in other directions, especially in the investigation of the cost of living and in connection with the International Labour Organization of the League of Nations. Reference is made elsewhere in the present volume to the operations of the Government Annuities Act, 1908 (see p. 872), the Old Age Pensions Act (see p. 739), and the Technical Education Act (see p. 922), also to the proceedings which have taken place under the Combines Investigation Act, 1923 (see pp. 748-9).

Industrial Disputes Investigation Act.—The Industrial Disputes Investigation Act, (R.S.C. 1927, c. 112), has attracted considerable favourable attention from legislators and publicists throughout the world. As enacted in 1907, it forbids strikes and lockouts in industrial disputes affecting mines and public utilities until the matters in dispute have been dealt with by a board of conciliation and investigation consisting of three members, two appointed by the Minister of Labour on the recommendation of the respective parties to the dispute, the third on the recommendation of the first two, or, if they fail to agree, by the Minister himself. After their report has been made either of the parties to the dispute may reject it and declare a strike or a lockout, a course adopted, however, only in a small percentage of cases. The machinery of the Act may be extended to other industries with the consent of the parties concerned. In January, 1925, a judgment was rendered by the Judicial Committee of the Privy Council declaring that the Act as it stood was not within the competence of the Dominion Parliament.[1] So at the ensuing session of Parliament amendments were made to the Statute, with the object of limiting its operation to matters that are not within exclusive provincial jurisdiction. It was also provided by these amendments that the Statute should apply in the case of " any dispute which is within the exclusive legislative jurisdiction of any Province and which by the legislation of the Province is made subject to the provisions of this Act".

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[1] The sections and subsections of this chapter, with the exceptions of Section 3; Section 7; and Section 9, Subsection 3; all of Part I, have been revised by, or under the direction of, H. H. Ward, Deputy Minister, Department of Labour, Ottawa. The information in Section 3, Part I, has been obtained through the courtesy of the provincial Departments of Labour or Bureaus of Labour, and that in Section 7, Part I, has been revised by the chairmen of the respective provincial Compensation Boards.

The Legislatures of six of the provinces, namely, British Columbia, Alberta, Saskatchewan, Manitoba, New Brunswick and Nova Scotia, have taken advantage of this provision and enacted enabling legislation, by which the Dominion Industrial Disputes Investigation Act becomes operative in respect of disputes of the classes named in the Dominion law and otherwise within exclusive provincial jurisdiction.

A review of the proceedings under the Industrial Disputes Investigation Act from its enactment in March, 1907, to Mar. 31, 1930, shows that during the 23 years 729 applications were received for the establishment of boards of conciliation and investigation, as a result of which 499 boards were established. In all but 38 cases, strikes (or lockouts) were averted or ended.

Fair Wages Branch.—The Fair Wages Branch of the Department of Labour is charged with the preparation of schedules of minimum wage rates, which are inserted in Dominion Government contracts and must be adhered to by contractors in the execution of such works. The number of fair wage schedules prepared, from the adoption of the Fair Wages Resolutions in 1900 up to the end of the fiscal year 1929-30, was 5,139. The number of fair wage schedules and clauses furnished during the fiscal year 1929-30 was 434.

The fair wages policy of the Government of Canada was expressed in an Order in Council adopted on June 7, 1922, and amended on April 9, 1924. As drawn up at that time it was applied to contracts for building and construction operations, also to contracts for the manufacture of certain classes of Government supplies. The policy required that the current wages rates and working hours of the district should be observed in the case of all workmen employed, or if there were no current rates or hours in existence, then fair and reasonable conditions in both respects. Contracts for railway construction to which the Dominion Government has granted financial aid, either by way of subsidy or guarantee, are likewise subject to fair wages conditions. The policy has, moreover, been extended within recent years to cover contracts for works carried out by the several Harbour Commissions which have been aided by grant of public funds.

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[1] See page 241 of the *Labour Gazette* for February 1925, for text of judgment of the Judicial Committee of the Privy Council in regard to the validity of this Statute.

An Order in Council was passed on Dec. 3, 1929, providing for the payment of current wage rates to workmen employed in the construction, alteration, extension, maintenance and operation of works for the utilization of water powers under licence from the Dominion Government. The Fair Wages Clause was also inserted in an important agreement made by the Dominion Government with one of the paper companies for the cutting of pulpwood in the province of Manitoba, under which the company agreed to pay to those employed in the industry wage rates not less than those generally accepted as current in each trade or occupation in similar industries, and to maintain conditions of labour not less favourable than those prevailing in similar industries in the district.

On May 30, 1930, an Act of Parliament was adopted, known as the Fair Wage and Eight-Hour Day Act, 1930, which provides for the payment of current wages rates to all persons employed on contracts made with the Government of Canada for works of construction, remodelling, repair or demolition, provided that the wages in all cases shall be such as are fair and reasonable. This Statute also directed that the working hours of persons while so employed shall not exceed eight hours a day. It was further declared that the foregoing conditions are to be applied to all workmen employed by the Government itself on the construction, remodelling, repair or demolition of any work.

On Mar. 27, 1930, an Order in Council was passed providing that, except in cases where the work of employees was intermittent in character, or the application of the rule was not deemed to be practicable, or in the public interest, the hours of work of any Dominion Government employees who had up to that time been required to work more than eight hours daily should be reduced to eight hours a day, with a half holiday on Saturday.

The Department of Labour is frequently consulted by other Departments of the Government regarding the wage rates to be observed in connection with work undertaken on the day labour plan.

Labour Gazette.—A monthly publication, known as the *Labour Gazette,* has been issued by the Dominion Department of Labour since its establishment in 1900. It contains a monthly review of the industrial situation in Canada and of the state of employment, including reports of the operations of the Employment Service of Canada in the various provinces, also information relative to: labour legislation, wage rates and hours of labour, wholesale and retail prices of staple commodities in Canada and other countries, labour disputes (including the proceedings under the Industrial Disputes Investigation Act), industrial accidents, legal decisions affecting labour, industrial training and technical education, proceedings under the Combines Investigation Act, and other matters of general or current industrial interest. The *Labour Gazette* is widely distributed throughout Canada, and the statistical and other information contained therein is constantly used in connection with wages and other issues between employers and workers. A subscription charge of 20c. per annum is made for this publication.

Labour Legislation.—Much attention is devoted to labour legislation. Information as to new laws enacted by the Dominion and the provinces is kept up to date, while notes or articles regarding their provisions are published in the *Labour Gazette.* Since 1917, the Department has published annual reports containing the text of Canadian labour laws enacted during each year, together with an introduction summarizing this legislation under subject headings. The first of these reports was based on a consolidation of Dominion and provincial labour legislation as existing at the end of 1915, which was made from the most recent revised Statutes and the subsequent annual volumes of Statutes up to 1915, and which formed the Department's report on labour legislation for 1915. Reports on the labour laws enacted in the four succeeding years were published in regular order. In 1920 a further consolidation was brought out and annual reports supplementary thereto were issued in 1921, 1922, 1923, 1924, 1925 and 1926. A third consolidated report on labour legislation containing the texts of the Dominion and provincial labour laws up to the end of 1928, was issued in December, 1929. A supplement containing labour laws of 1929 was issued in 1930. The Department of Labour has also published various articles dealing with provincial labour laws, indicating the extent to which these have been standardized and the differences which exist.

The advantage of uniformity in the laws relating to the welfare of persons engaged in industrial work in the several provinces was pointed out in June, 1919, by a Royal Commission on Industrial Relations, and this view was endorsed by a resolution of the National Industrial Conference held in September, 1919. A commission established in 1920, composed of representatives of the Dominion and Provincial Governments, of employers and of workers, to consider this subject, met in Ottawa between April 26 and May 1, 1920, and formulated recommendations looking to greater uniformity in provincial laws relative to workmen's compensation, factory control, mining, and minimum wages for women and girls.

Joint Industrial Councils.—One section of the report of the Royal Commission of 1919 on Industrial Relations dealt with shop committees and industrial councils, the Commissioners urging the adoption in Canada of the principles underlying Whitley Councils and kindred systems. The subject was also discussed at the National Industrial Conference of 1919. The committee to which the matter was referred made a unanimous report, urging the necessity for greater co-operation between employer and employee and stating their belief that this end could be furthered by the establishment of joint industrial councils. Information respecting such organizations, furnished by employers throughout Canada, has been assembled and published by the Department of Labour in the form of a special bulletin, which also contains facts regarding similar systems in other countries.

The Select Standing Committee on Industrial and International Relations, in reporting to the House of Commons on Mar. 27, 1928, recommended that the Government should establish a National Civil Service Council, composed of representatives of the Government and of the organized Civil Service in equal numbers, to consider and advise the Government upon matters of mutual concern to the Government and civil servants in their respective capacities as employer and employees. Subsequently, invitations were sent out to the eleven larger Civil Service organizations to name representatives to a joint meeting for the purpose of drafting a constitution for the proposed National Civil Service Council.

Under Order in Council P.C. 2232 of Dec. 22, 1928, there was established an Advisory Committee on the Civil Service Superannuation Act to advise the

Treasury Board in respect to matters incidental to the administration of the Act. This Committee is composed of five representatives named by organizations of civil servants and five named by the Government, of whom three are named by the Department of Finance, one by the Department of Insurance and one by the Department of Justice. The Committee began its sessions in January, 1929, and is still functioning respecting matters affecting the superannuation of public employees.

Section 3.—Provincial Labour Departments and Bureaus.

The rapid industrial development at the end of the nineteenth century in Quebec and Ontario, the leading manufacturing provinces, brought with it the recognition of the need of special provincial offices to safeguard the interests of labour, with the result that the Ontario Bureau of Labour was established in 1900 and the Quebec Department of Public Works and Labour in 1905. In 1904 an Act was passed in New Brunswick providing for a Bureau of Labour, but this never became operative. Some years later, to cope with conditions created by the growth of industry in the West, Acts were passed providing for the creation of provincial Bureaus of Labour in Manitoba (1915), in British Columbia (1917), in Saskatchewan (1920), and in Alberta (1922).

The Quebec Department of Labour.—This Department was formerly known as the Department of Public Works and Labour, each division having a separate Deputy Minister, but at the session of 1921 the Legislature created each division a distinct Department.

Its duties include the institution and control of inquiries into important industrial questions and those relating to manufactures, and it may collect useful facts and statistics relating thereto, to be transmitted to the Quebec Bureau of Statistics. The Department is charged with the administration of provincial Acts respecting trade disputes, factory inspection, maintenance of fair wage clauses in Provincial Government contracts, superintendence of licensed registry offices for domestic workers, inspection of boilers and foundries, prevention of fires, establishment and maintenance of provincial employment offices, the issue of educational certificates to wage-earners under 16 years of age, together with the inspection of heating installations, steam, hot-water and hot-air furnaces. The Department's functions also include the qualification of electricians and contractors in that line of business, and the qualification of stationary engineers and firemen, and the inspection of boilers registered under the Interprovincial Code, together with the registering of the blue prints in connection with the construction of boilers. The Department publishes annual reports outlining the work performed.

The Department of Labour of Ontario.—The Department of Labour of Ontario was established in 1919 and placed under the direction of a Minister and a Deputy Minister of Labour. This Department had its origin in the Bureau of Industries which had been formed in 1882 as a part of the activities of the Department of Agriculture, to collect and publish statistics relating to the industries of the province and (later) to administer the first Factory Act of Ontario proclaimed law in 1886. In 1900 a Bureau of Labour attached to the Department of Public Works was authorized to collect and publish information relating to employment, wages and hours, strikes, labour organizations and general conditions of labour. Several investigations were made regarding such matters and the first free employment offices were opened by the Bureau of Labour. In 1916 this Bureau was in turn superseded by the Trades and Labour Branch, also under the Ministry of Public Works but administered by a Superintendent. The establishment of the Branch had been recommended by the Ontario Commission on Unemployment and the expansion of the work undertaken by the Branch and the increase in the demands made upon its resources led to the creation of a special Department of the Government by the Department of Labour Act, 1919. Following certain changes in the Ontario Cabinet in September, 1930, the Honourable J. D. Monteith became Minister of Public Works and Labour.

The Department of Labour administers the following Acts:—The Department of Labour Act; The Factory, Shop and Office Building Act; The Steam Boiler Act; The Stationary and Hoisting Engineers Act; The Building Trades Protection Act; The Employment Agencies Act; the Apprenticeship Act; The Regulations respecting the Protection of Persons working in Compressed Air; The Minimum Wage Act. The Department is required to maintain employment offices, to collect information respecting employment, sanitary and other conditions in work-places, wages and hours of work, and to study labour legislation in other parts of the British Empire and in foreign countries, as well as any suggested changes in the labour laws of Ontario. The representatives of the Department of Labour have right of access to offices, factories and other work-places at any reasonable hour, and may be authorized to hold inquiries under the Public Inquiries Act. The Department publishes annual reports which cover the work of the officers employed in the administration of the various Acts assigned to it and contain much statistical and other information pertaining to labour. The Minimum Wage Act is administered by a board of five persons, two representing employers and two representing employees, with an impartial chairman; two of the members are women. In September 1930 the Mothers' Allowances Commission and the Old Age Pensions Commission were transferred to the newly-formed Department of Public Welfare.

Manitoba Bureau of Labour.—The Act of 1915, establishing the Manitoba Bureau of Labour, provided that it be attached to the Department of Public Works; an amendment of 1922, however, stated it may be attached to that or any other Department, as the Lieutenant-Governor in Council may determine.

The Bureau is established to co-operate with employers, trade unions and others; it is charged with the enforcement of the following Acts:—The Manitoba Factories Act; The Bake Shops Act; The Building Trades Protection Act; The Fair Wage Act; The Electricians' Licence Act; The Elevator and Hoist Act; The Shops Regulation Act; The Public Buildings Act; The Minimum Wage Act; The Steam Boiler Act; the licensing of cinematograph projectionists under The Public Amusements Act; The Fires Prevention Act; The One Day Rest in Seven Act.

Saskatchewan Department of Railways, Labour and Industries.—This was created as a separate Department by an Act passed in 1928. It is presided over by the Minister of Railways, Labour and Industries, assisted by a permanent Deputy Minister. The functions of the Department include the following:—Administration of the Factories Act and Elevator Regulations, the Steam Boilers Act, the Building Trades Protection Act, the Act protecting the payment of wages to certain employees, the Mines Act, the Minimum Wage Act, and the Order in Council respecting fair wages in government contracts, also of all matters connected with railways over which the Government of Saskatchewan by any Act may have control. It is also charged with the operation of public free employment offices; the collection and publication of statistics relating to employment; wages and hours of labour throughout the province; strikes and other difficulties; trade unions and labour organizations; the relations between capital and labour, and other subjects connected with industrial problems; the commercial, industrial and sanitary conditions of employment; raw products of Saskatchewan and their industrial possibilities; such other matters as may be related to industrial development; the protection of game as outlined in the Game Act.

Alberta Bureau of Labour.—The Act of 1922, creating the Alberta Bureau of Labour, provided that the Bureau be in charge of a Minister having under him a Commissioner of Labour. The latter is empowered to collect and publish information and statistics affecting labour, and to administer such Acts as may be assigned to the Bureau by Order in Council. Important among these Acts are:—The Alberta Government Employment Bureau Act; The Minimum Wage Act; The Boilers Act; The Factories Act; The Theatres Act. The Bureau issues annual reports.

The British Columbia Department of Labour.—This Department was instituted by an Act of 1917, under a Minister and Deputy Minister of Labour, It administers the laws of British Columbia affecting labour, and is empowered to collect information respecting industries, wages, employment, prices, labour organizations and other data pertaining to labour problems. Prominent among the Acts under the jurisdiction of the Department are:—The Minimum Wage Act for Female Employees; The Male Minimum Wage Act (passed in 1929); The Hours of Work Act; The Semi-Monthly Payment of Wages Act; The Factories Act. The Department also operates the employment bureaus within the province. The Deputy Minister of Labour is *ex officio* Chairman of the Board of Adjustment under the Hours of Work Act of 1923, which, with exceptions, provides for the eight-hour working day in industry, and is also Chairman of the Male Minimum Wage Board. Annual reports are published by the Department, containing much information respecting labour matters.

Section 4.—Canada and the International Labour Organization.[1]

The International Labour Organization of the League of Nations was set up in accordance with Part XIII of the Treaties of Peace, to promote the improvement of industrial conditions by legislative action and international agreement.

The Organization comprises the permanent International Labour Office in Geneva, Switzerland, and the International Labour Conference, which meets annually and is composed of four representatives of each Member State, two of whom are government delegates, while two represent the employers and the employed respectively. Fifty-five countries are members of the International Labour Organization, including all of the important industrial countries of the world except the United States.

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[1] On this subject see also the 1921 Year Book, pp. 607-609; 1922-23 Year Book, pp. 704-707; 1924 Year Book, pp. 666-670; 1925 Year Book, pp. 676-678; 1926 Year Book, pp. 679-681; 1927-28 Year Book, pp. 735-737; and the 1929 Year Book, pp. 725-727.

The International Labour Office functions as a secretariat of the annual conference, and also collects and publishes information on subjects relating to industrial life and labour. The Office is under the control of a Governing Body consisting of 24 persons, appointed by the International Labour Conference, of whom 12 represent Governments, 6 represent employers and 6 represent workers. In addition to its control of the Labour Office, the Governing Body is charged with the preparation of the agenda of the annual conference.

Under the terms of the Peace Treaties, eight of the government seats on the Governing Body are held by the countries of "chief industrial importance". Canada was designated by the Council of the League of Nations as one of the eight states of "chief industrial importance". The Minister of Labour is the Government representative on this body. Mr. Tom Moore, President of the Trades and Labour Congress of Canada, is one of the 6 workers' representatives on the Governing Body.

The conclusions of the International Labour Conference are cast in the form of draft conventions or recommendations, addressed to the national Governments which comprise the membership of the International Labour Organization. A two-thirds majority of the Conference is required for the adoption of either a draft convention or recommendation. Under the Treaties of Peace, the Member States are bound to bring the draft conventions or recommendations before the authority or authorities within whose competence the subject matter lies, for the enactment of legislation or other action. Thus the findings of the Conference only become binding in the various countries concerned if and when action regarding them is taken by the latter.

Most of the proposals dealt with in the successive meetings of the Labour Conference since its establishment in 1919 have been adjudged by the law officers of the Crown in Canada to fall within provincial jurisdiction. The draft conventions and recommendations of the Conference have in all cases been brought to the attention of the Dominion Parliament, while those which dealt with subjects within provincial control were also referred to the Provincial Governments.

The Dominion Department of Labour is entrusted with the duties arising out of the relations of Canada with the International Labour Organization. These have entailed much correspondence, not only with the International Labour Organization but also with the different Departments of the Dominion Government, with the provinces, and with employers' and workers' organizations. Replies have also been prepared in the Department of Labour to various questionnaires issued by the International Labour Office. Performance of these duties has necessitated a close study of the different technical questions which have figured on the agenda of the various conferences and at the meetings of the Governing Body. A bulletin entitled "Canada and the International Labour Conference", issued by the Department of Labour in February, 1922, furnished information respecting the International Labour Organization and the subjects which had received attention at the hands of that body. Comprehensive articles dealing with the proceedings of the annual sessions of the International Conference have been published from year to year in the Labour Gazette. These articles contain the text of the various draft conventions and recommendations of this Conference.

Fourteen sessions of the International Labour Conference have been held. Thirty draft conventions and 39 recommendations have been adopted at these annual gatherings.

The draft conventions and recommendations of the Conference have, among other subjects, related to the following:—hours of labour, measures for the avoidance of unemployment, employment conditions of women and children, employment conditions of seamen, employment in agriculture, weekly rest, statistics of immigration and emigration, principles of factory inspection, inspection of emigrants on board ship, workmen's compensation for accidents and occupational diseases, sickness insurance, minimum wages, prevention of accidents to dockers, forced labour and regulation of hours of work of salaried employees.

Up to December, 1930, 414 ratifications of these conventions had been registered with the League of Nations, of which 8 were conditional or with delayed application; 23 had been approved by the competent national authority; and 162 had been recommended to the competent national authority for approval.

Canadian Action on Draft Conventions and Recommendations.—The action taken by the Dominion and the Provincial Governments on the draft conventions and recommendations of the International Labour Conference has been summarized in the articles on this subject published in previous Year Books and referred to in the footnote on p. 753.

Section 5.—Organized Labour in Canada.

The Dominion Department of Labour publishes an annual report on labour organization; this sets out the various branches of unionism in existence, the principles on which they are founded, their chief activities, and statistics of the different groups comprised in the trade unions of the Dominion. Reference is also made in this annual report to the principal international labour organizations with which the organized workers of Canada are affiliated.

Trade unionism in Canada occupies a unique position, by reason of the fact that most organized workers in the Dominion are members of organizations whose headquarters are located in a foreign country, *viz.*, the United States. This condition is explained when it is understood that workers move freely from one country to the other in order to find employment. In years gone by Canadian workmen who sought a livelihood in the United States greatly outnumbered those who came from that country to Canada. As industry was further developed in the United States there arose a number of unions of various crafts, and with these the Canadian workers soon became affiliated. With the development of industry in the Dominion, many of these Canadians returned to their native land, bringing with them the gospel of trade unionism and collective bargaining as a means of protecting their rights. In many instances these trade unionists became the nuclei of strong bodies of organized workers formed in Canadian cities.

The usual *résumé* of the origin and growth of the trades union movement in Canada has been omitted in this edition, owing to considerations of space. The interested reader is referred to pp. 712-714 of the 1930 edition of the Year Book and to "Labour Organization in Canada, 1929", published by the Dominion Department of Labour. This latter publication presents the history and present organization of trades unionism in the Dominion in a very comprehensive manner. The following paragraphs give a short sketch of the present organization of the five main groups into which Canadian labour organizations now fall.

Trades and Labour Congress of Canada.—Through the initiative of the Toronto Trades Assembly (now the Toronto District Trades and Labour Council), the first national labour organization, the Canadian Labour Union, was formed in Toronto in September, 1873. This organization held its second and third annual meetings in 1874 and 1875, but disappeared as a result of the serious depression of the later '70's. In 1883 the Trades and Labour Council of Toronto, feeling the necessity of the wage-earners of Canada having a medium through which to express their opinions, assumed the responsibility of calling another trades and labour congress, which met in Toronto on Dec. 26, with 47 delegates. On the summons of the Toronto Council, a second meeting, with 109 delegates, assembled on Sept. 14, 1886, the first occasion on which any labour body outside of the province of Ontario was represented. A permanent organization was effected at this meeting under the name of "Trades and Labour Congress of the Dominion of Canada". This was the title of the organization until 1895, when the title "Trades and Labour Congress of Canada" was adopted in preference to "Canadian Federation of Labour". Since 1886 conventions have been held annually, the 1928 meeting in Toronto being counted as the 44th. The Trades and Labour Congress is representative of international trade unionism in the Dominion, the bulk of its membership being drawn from the international organizations which have local branches in Canada. According to reports for 1929, the Congress received payment of per capita tax on the Canadian membership of 59 international bodies and also from two national organizations which had their entire membership in the Dominion, their total membership being 119,109 comprised in 1,452 local branches. With other affiliations and unions directly under charter, the Congress had in all at the close of 1929 a membership of 126,638 in 1,500 branches.

All-Canadian Congress of Labour.—The All-Canadian Congress of Labour was organized Mar. 16, 1927, by labour bodies not eligible for membership in the old established Trades and Labour Congress of Canada. One of the promoters of the new body was the Canadian Federation of Labour, which was formed as a result of the expulsion from the Trades and Labour Congress of Canada of Knights of Labour assemblies and all other unions which were composed of members of crafts over which existing international organizations claimed jurisdiction. With the formation of the All-Canadian Congress of Labour the Canadian Federation passed out of existence. At the close of 1929 the All-Canadian Congress of Labour had eleven central bodies in affiliation, with a combined membership of 51,461, as well as 22 directly chartered local unions, with a membership of 1,471, making a total combined reported membership of 52,429.

Membership of International Organizations in Canada.—At the close of 1929 there were 85 international craft organizations having one or more local branch unions in Canada, four more than the number recorded in 1928. These bodies among them had 1,953 local branches in the Dominion with 203,514 members. The membership of the two industrial unions with branches in the Dominion was 26,865 comprised in 49 branches. With these figures the total international trade union membership in Canada at the close of 1929 was 230,379. The international craft organizations represent approximately 63 p.c. of the total of all classes of workers in the Dominion organized under trade union auspices (Table **2**).

Canadian Central Labour Bodies.—There are in Canada 25 Canadian central labour bodies, 18 of which are in direct opposition to the international organizations. In some instances these Canadian central labour bodies have been formed by secessionists from international unions. The combined membership of the Canadian central labour organizations on Dec. 31, 1929, was 53,277, comprised in 639 local branches (Table **3**).

Membership of Independent Units.—There are 31 independent local labour bodies in the Dominion, 30 of which had a membership of 10,820 at the end of 1929, the remaining one not reporting.

Federation of Catholic Workers of Canada.—During the period when the Knights of Labour operated in Quebec, there existed also four independent unions, one of labourers and three of leather and shoe workers. Up to 1902 these several bodies were represented at the annual conventions of the Trades and Labour Congress of Canada. In that year, in an effort to eliminate a duplication of unions and bring the independent bodies under the banner of the international organizations, the Trades Congress denied them further representation. The Knights of Labour assemblies gradually disappeared, but the independent unions continued to exist. Up to the time of the expulsion by the Trades Congress of those bodies which were outside the ranks of the international organizations there was only one Catholic union, that composed of shoe workers in the city of Quebec, which had accepted the social doctrine of the Roman Catholic Church and admitted a chaplain (a member of the clergy), this course being adopted in 1901 following the adjustment of a dispute in the shoe industry in that city by the archbishop of the diocese. Some years later a number of other national unions were formed in the province of Quebec, all of which accepted for their guidance the declarations of Pope Leo XIII, who on May 15, 1891, issued an encyclical on "The Condition of the Working Classes", the provisions of which were subsequently proclaimed by Pope Pius X as fundamental rules for workingmen's associations. In 1918 a conference of national unions was held in Quebec city, followed by other meetings in Three Rivers in 1919 and Chicoutimi in 1920; the delegates at the later conference, numbering 225 from 120 unions, decided to establish a permanent central body to co-ordinate the work of the scattered units. Accordingly, at the 1921 conference held in Hull, at which approximately 200 delegates representing 89 unions were present, a constitution to govern the new body was approved. The name selected was Federation of Catholic Workers of Canada, and permanent officers were elected, the constitution and by-laws becoming effective on Jan. 1, 1922. From information at hand, there are 106 National Catholic unions with a combined membership of 25,000.

One Big Union.—A number of delegates from Western Canada to the Quebec convention of 1918, dissatisfied with the alleged reactionary policy of the Trades and Labour Congress of Canada, held a caucus at which it was decided to concentrate their energies towards having the Trades Congress legislate in accordance with their views. Some months later a meeting of delegates was called by the British Columbia Federation of Labour to assemble immediately following the annual convention of that body, which, for the first time in its history, met outside of the province under its jurisdiction, in Calgary. The conference assembled on Mar. 13, 1919, with 239 delegates present; the outcome of the meeting was the formation of an industrial organization, the "One Big Union". On June 11, 1919, a conference of the advocates of the new body was held in Calgary to further the plans of the organization, which had a membership of 41,150 at the close of 1919. From the outset the O.B.U. met with much opposition from the old-established labour unions, represented by the Trades and Labour Congress of Canada, which was opposed to the substitution of industrial unionism for the existing system of craft unions. According to information supplied the Department by the general secretary, the O.B.U. at the close of 1929 had 44 units under charter, one of which was located in the United States, as well as two central labour councils (bodies similar to trades and labour councils), the combined reported membership being 22,890.

Total Reported Membership of Organized Labour in Canada.—At the close of 1929 the numerical strength of organized labour in Canada was given by the Department of Labour as follows: international organizations, 2,002 local branches with an aggregate membership of 230,379; Canadian central labour bodies, 639 branches and 53,277 members; independent units, 31, with 10,820 members; National Catholic unions, 106 with 25,000 members; grand total 2,778 local branches and 319,476 members. As compared with 1928, this represents an increase of 125 branches and of 18,874 members.

Table **1** shows by years the membership of trade unions in Canada since 1911.

1.—Membership of Trade Unions in Canada, 1911-1929.

Year.	Members.	Year.	Members.
1911	133,132	1920	373,842
1912	160,120	1921	313,320
1913	175,799	1922	276,621
1914	166,163	1923	278,092
1915	143,343	1924	260,643
1916	160,407	1925	271,064
1917	204,630	1926	274,064
1918	248,887	1927	290,282
1919	378,047	1928	300,602
		1929	319,476

International Trade Unions Operating in Canada.—Table **2** gives the names of the 85 international craft labour organizations and the two industrial unions which now carry on operations in Canada, and shows:—(1) the number of branches which were in existence in the Dominion at the close of 1929, and (2) the reported membership. The reported figures in Tables **2** and **3** are given in italics where the information has been obtained from sources other than the headquarters of the indicated organization.

2.—International Trade Unions Operating in Canada.

NUMBER OF BRANCHES AND NUMBER OF MEMBERS IN CANADA, DECEMBER, 1929.

International Organization.	No. of Branches in Canada.	Reported Members in Canada.
American Federation of Labour	6	151
Actors' Equity Association	–	500
Asbestos Workers, International Association of Heat and Frost Insulators and	*3*	*158*
Bakery and Confectionery Workers' Internatioanl Union of America	8	293
Barbers' International Union of America, Journeymen	37	1,658
Bill Posters and Billers of America, International Alliance of	3	300
Blacksmiths, Drop Forgers and Helpers, International Brotherhood of	22	1,250
Boilermakers, Iron Shipbuilders and Helpers, International Brotherhood of	35	3,116
Bookbinders, International Brotherhood of	12	752
Boot and Shoe Workers' Union	9	1,113
Brewery, Flour, Cereal and Soft Drink Workers, International Union of the United	14	682
Bricklayers', Masons' and Plasterers' International Union of America	54	5,360
Bridge, Structural and Ornamental Iron Workers, International Association of	12	1,177
Broom and Whisk Makers' Union, International	–	3
Carpenters and Joiners of America, United Brotherhood of	85	10,700
Carvers' Association of America, International Wood	1	24
Cigarmakers' International Union of America	5	302
Cloth Hat, Cap and Millinery Workers' International Union	4	240
Clothing Workers of America, Amalgamated	15	7,000
Commercial Telegraphers' Union of America	5	1,847
Conductors, Order of Sleeping Car	1	15
Electrical Workers, International Brotherhood of	43	4,115
Elevator Constructors, International Union of	5	284
Engineers, International Union of Operating	34	1,430
Firemen and Oilers, International Brotherhood of	64	900
Fire Fighters, International Association of	21	2,490
Fur Workers' Union, International	6	2,000
Garment Workers of America, United	8	1,278
Garment Workers' Union, International Ladies'	*10*	*1,500*
Glass Bottle Blowers' Association of the United States and Canada	4	130
Glass Workers' Union, American Flint	3	107
Glove Workers' Union, International	–	9
Granite Cutters' International Association of America	4	207
Hod Carriers', Building and Common Labourers' Union of America, International	9	804
Hotel and Restaurant Employees and Beverage Dispensers' International Alliance	11	1,072
Iron, Steel and Tin Workers of North America, Amalgamated Association of	1	36
Jewellery Workers' Union, International	*2*	*180*
Lathers, International Union of Wood, Wire and Metal	11	300
Leather Workers' International Union, United	1	75
Lithographers of America, Amalgamated	7	382
Locomotive Engineers, Brotherhood of	103	5,637
Locomotive Firemen and Enginemen, Brotherhood of	104	7,786
Longshoremen's Association, International	12	2,742
Machinists, International Association of	84	8,993
Maintenance-of-Way Employees, Brotherhood of	191	16,336
Marble, Stone and Slate Polishers, Rubbers and Sawyers, Tile and Marble Setters' Helpers and Terrazzo Workers' Helpers, International Association of	2	160
Meat Cutters and Butcher Workmen, Amalgamated	1	53
Metal Polishers' International Union	3	109
Metal Workers' International Association, Sheet	20	912
Mine Workers of America, United	42	17,100
Moulders' Union of North America, International	33	2,077
Musicians, American Federation of	37	8,000
Painters, Decorators and Paperhangers of America, Brotherhood of	33	2,325
Papermakers, International Brotherhood of	33	2,131
Pattern Makers' League of North America	14	303
Paving Cutters' Union of the United States and Canada	5	150
Photo-Engravers' Union of North America, International	6	406
Piano, Organ and Musical Instrument Workers' International Union	1	10
Plasterers and Cement Finishers' International Association, Operative	16	1,732
Plumbers, Gas and Steam Fitters, United Association of Journeymen	36	1,700
Porters, Brotherhood of Sleeping Car	–	40
Printers, Die Stampers and Engravers' Union, International Plate	1	42
Printing Pressmen and Assistants' Union, International	20	4,500
Pulp, Sulphite and Paper Mill Workers of the United States and Canada, International Brotherhood of	19	2,000
Quarry Workers' International Union of North America	1	40
Railroad Signalmen of America, Brotherhood of	9	200
Railroad Telegraphers, Order of	13	7,000

2.—International Trade Unions Operating in Canada—concluded.

International Organization.	No. of Branches in Canada.	Reported Members in Canada.
Railroad Trainmen, Brotherhood of	95	15,455
Railway Carmen of America, Brotherhood of	116	15,533
Railway and Steamship Clerks, Freight Handlers, Express and Station Employees, Brotherhood of	61	4,523
Railway Conductors, Order of	72	3,393
Railway, Bus and Coach Employees of America, Amalgamated Association of Street and Electric	27	10,191
Retail Clerks' International Protective Association	5	*237*
Seamen's Union of America, International	1	270
Siderographers, International Association of	1	*11*
Stage Employees, International Alliance of Theatrical	38	800
Stereotypers and Electrotypers' Union, International	10	316
Stonecutters' Association of North America, Journeymen	18	300
Switchmen's Union of North America	9	*115*
Tailors' Union of America, Journeymen	13	286
Teamsters, Chauffeurs, Stablemen and Helpers, International Brotherhood of	14	1,185
Textile Workers of America, United (including American Federation of Full Fashioned Hosiery Workers)	5	1,105
Train Despatchers' Association, American	–	34
Typographical Union, International	49	2,936
Upholsterers' International Union of America	5	350
Totals	1,953	203,514
One Big Union	43	22,890
Industrial Workers of the World	6	3,975
Grand Totals	**2,002**	**230,379**

Table **3** gives the number of branches and the members of Canadian central labour bodies operating in Canada at the close of 1929.

3.—Canadian Central Labour Bodies Operating in Canada.

NUMBER OF BRANCHES AND NUMBER OF MEMBERS, 1929.

Organization.	No. of Branches or Affiliations.	Members Reported.
Trades and Labour Congress of Canada	45	7,087
All-Canadian Congress of Labour	22	1,471
Amalgamated Building Workers of Canada	4	170
Amalgamated Carpenters of Canada	16	2,054
Amalgamated Civil Servants of Canada	39	4,386
Brotherhood of Canadian Pacific Express Employees	26	1,552
Canadian Association of Railway Enginemen	40	730
Canadian Association of Stationary Engineers	6	350
Canadian Broker and Leased Wire Telegraphers' Association	–	85
Canadian Brotherhood of Railway Employees	238	18,694
Canadian Carpet Weavers' Beneficial Association	6	220
Canadian Electrical Trades Union	11	1,011
Canadian Theatrical Arts and Crafts Society	–	88
Civil Service Association of Alberta	11	650
Dominion Railway Mail Clerks' Federation	15	933
Electrical Communication Workers of Canada	2	165
Federated Association of Letter Carriers	40	1,275
Federated Seafarers' Union of Canada	3	1,485
Great Lakes Seamen's Association of Canada	–	–
Industrial Union of Needle Trades' Workers of Canada	*12*	*1,200*
Mine Workers' Union of Canada	18	4,348
National Association of Marine Engineers	15	1,388
National Union of Painters, Decorators and Paperhangers of Canada	4	450
Provincial Federation of Ontario Fire Fighters	26	712
Saskatchewan Brotherhood of Steam and Operating Engineers	2	34
United Postal Employees of Canada	36	1,875
Vancouver and District Waterfront Workers' Association	2	864
Totals	**639**	**53,277**

Section 6.—Fatal Industrial Accidents.

Statistics of fatal industrial accidents have been compiled by the Dominion Department of Labour since 1903, the data being obtained from provincial Workmen's Compensation Boards, the Board of Railway Commissioners for Canada and various other governmental authorities, from departmental correspondents and from press clippings. Table 4 shows the number of fatal industrial accidents reported to the Department during each year from 1926 to 1930 inclusive. The number of fatalities in each of the different industries is also shown as a percentage of the total number. Preliminary figures show 1,607 fatal industrial accidents in 1930.

4.—Fatal Industrial Accidents in Canada by Industries, 1926-1930.

Industry.	Number of Fatal Accidents.					Per cent of Total Accidents.				
	1926.	1927.	1928.	1929.	1930.[1]	1926.	1927.	1928.	1929.	1930.[1]
Agriculture	151	162	194	156	121	11·6	11·4	11·6	8·8	7·5
Logging	126	164	176	235	168	9·7	11·6	10·5	13·3	10·4
Fishing and trapping	71	125	43	54	35	5·5	8·8	2·5	3·1	2·2
Mining, non-ferrous smelting and quarrying	154	168	260	234	257	11·8	11·9	15·5	13·2	16·0
Manufacturing	184	153	201	250	189	14·1	10·8	12·0	14·2	11·8
Construction	159	189	250	298	312	12·2	13·4	14·9	16·9	19·4
Electric light and power[2]	–	–	–	–	40	–	–	–	–	2·5
Transportation and public utilities	351	322	387	366	316	26·9	22·8	23·1	20·7	19·7
Trade	26	27	64	58	54	2·0	1·9	3·8	3·3	3·4
Service	68	104	102	114	115	5·2	7·3	6·1	6·4	7·1
Miscellaneous	13	1	–	1	–	1·0	0·1	–	0·1	–
Totals	**1,303**	**1,415**	**1,677**	**1,766**	**1,607**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**

[1] Figures subject to revision. [2] Previously included under Transportation and Public Utilities.

Causes of Fatal Accidents.—The classification of fatal accidents in 1930 according to causes shows that the largest number, 427, came under the category "by moving trains, vehicles, etc". This includes all accidents due to cars or engines, including mine and quarry cars, and to automobiles and other power vehicles and horse drawn vehicles, as well as accidents caused by moving implements (both those impelled by power and those drawn by horses), by moving watercraft and by aircraft. The largest number of accidents thus caused, 121, appear under the heading covering persons being struck or run over by, or crushed by or between, cars and engines, 66 of these victims being engaged on steam railways. Also, 97 were caused by automobiles and other power vehicles and implements, 97 were in connection with watercraft (15 being in fishing and trapping and 37 in water transportation); 31 were due to derailments and collisions (20 in steam railways); 25 were caused by animal-drawn vehicles and implements (13 of which were in agriculture, accidents primarily caused by animals being classified elsewhere); 26 were caused by persons falling from or in cars or engines, 16 by mine and quarry cars; and 15 fatalities occurred in aircraft.

Next in order as a cause of fatalities came falls of persons", 307 in number, including 120 falls into pits, shafts, harbours, rivers, etc. (some of which resulted in drowning), 77 falls from elevations, 28 due to collapse of support, 27 falls from loads, etc., 16 from ladders, 9 into holds of vessels, 9 due to falls on the level, 9 into tanks, vats, kilns, etc., 8 down stairs and inclines, and 4 due to falls on sharp objects.

"Dangerous substances" caused 305 fatalities, of which 78 were due to explosive substances, 72 to electric current, 54 to mine explosions from gas, coal dust, etc., 41 to hot and inflammable substances and flames, 33 to gas fumes, etc., 14 to steam escapes. boiler explosions and compressed air, and 13 to conflagrations.

Fatalities numbering 212 were caused by "falling objects", of which 73 were due to objects falling in mines and quarries, 67 to falling trees and limbs, 37 to objects falling from elevations, loads, piles, 19 to collapse of structures, 12 to breaking or loosening of straps, cables, etc., and 4 to other falling objects.

There were 60 fatalities caused by handling of heavy or sharp objects and 6 by the use of tools. Working machines caused 39, prime movers caused 59, and 11 were due to hoisting apparatus. There were 45 fatalities caused by striking against or being struck by objects, of which 9 were due to striking against objects and 36 to being struck by objects. Animals caused 36 fatalities including 29 caused by horses.

The category "other causes" includes 108 fatalities, of which 4 were deaths following infection, 33 due to industrial diseases, strains, etc., 5 to drownings of which no particulars were available, 10 to shooting and violence, 32 to cave-ins, land slides, ice-jams, etc., 22 to lightning, frost, storms, sunstroke, and 2 accidents of which no particulars were available.

Section 7.—Workmen's Compensation in Canada.

An account of the development of workmen's compensation legislation in Canada from employers' liability legislation was given at pp. 744-746 of the 1927-28 Year Book, while a summary of the present position with regard to workmen's compensation appears in the general sketch of labour legislation in Canada at pp. 746-748 of the current edition. Details regarding the operation of the various Workmen's Compensation Boards of the Provinces are given below.

Operations of the Workmen's Compensation Boards.—*Nova Scotia*—The Workmen's Compensation Act was passed in 1915, but only became effective on Jan. 1, 1917. During the thirteen years between that date and Dec. 31, 1929, accidents to the number of 92,638 were reported to the Board, of which 79,799 were compensated as per Table 5. Prior to Jan. 1, 1920, medical aid was furnished only in special cases.

5.—Compensation Paid and Accidents Compensated by the Nova Scotia Workmen's Compensation Board, 1917-1929.

Note.—The following figures do not include estimates for outstanding claims.

Year.	Compensation Paid.	Medical Aid.	Total.	Total Accidents Compensated.
	$	$	$	No.
1917	503,257·89	201·90	503,459·79	4,836
1918	826,740·32	–	826,740·32	4,931
1919	629,156·33	491·45	629,647·78	4,949
1920	1,135,234·75	36,561·22	1,171,795·97	7,116
1921	705,752·17	36,296·34	742,048·51	4,903
1922	576,905·81	40,146·77	617,052·58	5,022
1923	808,559·73	56,483·66	865,043·39	6,248
1924	874,477·95	63,973·66	938,451·61	5,786
1925	638,786·87	68,740·05	707,526·92	5,340
1926	875,939·70	84,122·35	960,062·05	6,652
1927	1,052,302·45	88,978·20	1,141,280·65	6,871
1928	1,076,074·41	95,068·44	1,171,142·85	7,666
1929	936,210·53	117,631·89	1,053,842·42	9,479

New Brunswick.—The Workmen's Compensation Act of New Brunswick was passed in 1918. It extends to a wide range of industries, and is administered by a Board of three persons, levying assessments and paying benefits. For the sums paid out annually from 1920 as compensation and for medical aid see Table **6.**

6.—Compensation Paid by the New Brunswick Workmen's Compensation Board, 1920-1929.

Year.	Weekly Compensation.	Permanent Partial Disability.	Fatal.		Medical Aid.	
			Funeral Expenses.	Reserve for Pensions.	Doctors' Fees and Transportation.	Hospital and Nursing Service.
	$	$	$	$	$	$
1920	195,063	73,440	1,799	128,158	39,324	15,606
1921	159,096	103,054	3,661	188,945	56,631	22,378
1922	162,988	84,316	2,906	124,088	76,046	31,568
1923	204,353	90,349	3,573	130,339	83,530	35,935
1924	203,946	113,555	3,425	162,740	87,261	41,528
1925	186,946	90,044	2,784	144,285	84,897	38,920
1926	185,624	76,780	2,033	93,838	73,149	40,293
1927	211,692	103,430	2,427	88,299	79,481	43,994
1928	217,890	116,208	3,141	127,490	80,212	51,984
1929	243,770	99,266	3,388	137,667	85,238	59,217

Quebec.—The Quebec Workmen's Compensation Commission was established in 1928 by authority of c. 80 of the Statutes of that year. The Act was brought into force by proclamation on June 9, 1928, operations of the Commission commencing as of Sept. 1, 1928.

The Quebec Commission does not itself insure employers against their liability under the Act, employers being required to insure in an approved company, although certain large corporations are permitted to practise self-assurance. Table 7 shows the operations of the Board from Sept 1, 1928 to Dec. 31, 1930.

7.—Compensation Paid and Accidents Compensated by the Quebec Workmen's Compensation Commission, 1928-1930.

Year.	Claims.	Accidents Compensated.	Compensation Paid.
	No.	No.	$
1928 (4 months)	8,266	2,625	209,764
1929	25,610	21,377	3,229,554
1930	20,900	19,850	3,792,346

Ontario.—Under the system operated by the Ontario Workmen's Compensation Board in schedule 1, where the liability is collective, 24 classes of industries pay various percentages of their payrolls annually to the Board and escape individual civil liability for accidents and certain specified industrial diseases. The percentage of payroll collected by the Board is graded according to the degree of hazard in the occupation and ranged in 1929 from 10 cents per $100 of payroll in blue-printing to $10 per $100 in wrecking of buildings, erection of high metal chimneys, etc., and aerial testing. The average for all classes was $1.34 per $100 of payrolls which amounted to $559,429,000. Certain other industries under schedule 2, including municipal undertakings, railways, car shops, telegraphs, telephones, etc., are made individually liable to pay the rates of compensation fixed under the Act. Employees of the Dominion or of the province, killed or injured in the discharge of their duty, are by special legislation placed on the same footing as those of private employers of the second class.

Statistics of the benefits awarded and the accidents to workers reported during the first 15 years of the operation of the Act appear in Table **8.** The 61,795 accidents paid for during the year 1930 included: 427 cases of death, 15 of permanent total disability, 2,959 of permanent partial disability, 28,220 of temporary disability and 30,174 in which medical aid only was provided. These latter are all under schedule 1, as medical aid in schedule 2 cases and Crown cases is furnished directly by the employer.

8.—Benefits Awarded and Accidents Reported by the Ontario Workmen's Compensation Board, 1915-1930.

Year.	Benefits Awarded.				Accidents Reported.			
	Schedule 1.		Schedule 2 and Crown Compensation.	Total Benefits.	Schedule 1.	Schedule 2.	Crown.	Total.
	Compensation.	Medical Aid.						
	$	$	$	$	No.	No.	No.	No.
1915	692,389	[1]	200,932	893,321	13,878	3,144	11	17,033
1916	1,553,653	[1]	451,710	2,005,363	21,269	4,806	17	26,092
1917	2,286,955	83,514[2]	623,556	2,994,025	30,701	5,813	18	36,532
1918	2,751,137	369,346	763,511	3,883,995	40,662	7,113	73	47,848
1919	2,808,639	386,299	997,923	4,192,860	36,236	7,918	106	44,260
1920	5,113,150	703,706	1,963,390	7,780,245	46,177	7,222	1,452	54,851
1921	3,858,017	662,794	1,668,452	6,189,264	36,272	7,666	1,253	45,191
1922	3,417,102	692,820	1,582,975	5,692,897	42,139	7,124	1,148	50,411
1923	4,036,170	788,906	1,348,786	6,173,862	51,655	6,080	3,374	61,109
1924	4,052,288	835,956	1,234,576	6,122,820	49,558	4,916	4,201	58,675
1925	3,635,530	875,836	1,054,077	5,565,443	50,883	5,079	4,050	60,012
1926	3,664,040	988,487	1,168,825	5,821,352	57,032	4,942	3,942	65,916
1927	3,930,418	1,062,860	1,091,378	6,084,655	62,063	5,412	4,504	71,979
1928	4,565,689	1,166,508	1,335,751	7,067,948	69,011	5,815	4,572	79,398
1929	5,346,621	1,385,525	1,280,012	8,012,158	76,029	6,008	5,066	87,103
1930	4,942,756	1,336,046	1,144,216	7,423,018	61,490	4,486	3,291	69,267

[1] No provision for medical aid. [2] Half year only.

Manitoba.—Under the Workmen's Compensation Act, which came into force Mar. 1, 1917, Part I of the Act, dealing with workmen in hazardous occupations, is administered by The Workmen's Compensation Board, which charges insurance rates according to the hazard of the industry, the sums received by the workman being in lieu of the rights of action previously existing. The province, the city of Winnipeg, and certain corporations operating public utilities are permitted by the law to practise self-insurance.

From the date of the coming into force of the Act to Dec. 31, 1929, the Board dealt with 66,612 compensable accidents and paid out $8,786,940 for compensation and medical aid. Of the accidents in 1929, 4,817 involved medical aid costs only, 5,278 involved temporary and 283 permanent disability, while 71 resulted in death (Table **9**).

9.—Compensation Paid and Accidents Compensated by the Manitoba Workmen's Compensation Board, 1917-1929.

Year.	Compensation.	Medical Aid.	Total.	Accidents Compensated.
	$	$	$	No.
1917	289,870	23,002	312,872	1,323
1918	304,135	35,121	339,256	1,731
1919	285,772	40,748	326,520	1,805
1920	389,710	78,566	468,276	2,509
1921	527,102	114,118	641,210	2,688
1922	585,292	156,734	742,026	4,977
1923	624,581	161,805	786,386	4,933
1924	476,722	155,166	631,888	4,972
1925	538,781	178,814	717,595	5,404
1926	599,144	190,023	789,167	7,046
1927	605,957	208,815	814,772	7,066
1928	812,328	250,823	1,063,151	8,873
1929	893,991	259,830	1,153,821	10,449

Saskatchewan.—The Workmen's Compensation Act, being Chapter 79 of The Statutes of Saskatchewan, 1928-1929, is administered by a Board of three members and was brought fully into force at midnight of July 1, 1930. This Act is similar to that of other provinces; certain railway employees engaged in what are generally known as the "running trades" are exempt from this Act but are covered by The Workmen's Compensation Act, being c. 210 of the Revised Statutes of Saskatchewan, 1920.

During the first six months of operation 3,210 accidents were reported, 625 of which were rejected, cancelled, or no action taken, leaving the number of claims compensated and in course of being disposed of, 2,585.

There were 18 fatal accidents reported; also 15 accidents reported which had resulted in permanent disability at Dec. 31, 1930.

These figures do not include accidents occurring in 1930 but reported in 1931.

Alberta.—The Workmen's Compensation Act of 1918 became effective Aug. 1, 1918, as regards mining, and Jan. 1, 1919, in respect of almost all industries except agriculture, railroading and the operation of retail stores and offices. Railroading (except for the running trades) was brought within the scope of the Act in 1919, and a further amendment in 1928 left only conductors and trainmen exempt from the operations of the Act.

Table **10** shows the operations of the Board for the calendar years 1921 to 1929. Of the 14,899 accidents reported in the latter year 72 were fatal and 146 resulted in some permanent injury. The amounts shown below do not include sums transferred to the pension fund, which had assets amounting to $2,247,756 on Dec. 31, 1929, nor do they include administration expenses nor sums set aside to cover estimated liabilities.

10.—Compensation Paid and Accidents Compensated by the Alberta Workmen's Compensation Board, 1921-1929.

Year.	Compensation Paid.	Medical Aid Paid.	Total.	Accidents Reported.	Accidents Compensated.
	$	$	$	No.	No.
1921	253,669	113,433	367,102	7,069	3,566
1922	265,326	134,252	399,578	7,518	3,314
1923	323,369	161,732	485,101	9,160	4,268
1924	241,090	127,397	368,487	7,383	3,627
1925	312,990	154,870	467,860	8,355	4,099
1926	298,404	124,138	422,542	8,930	4,629
1927	371,787	161,537	533,324	10,149	5,547
1928	456,526	207,602	664,128	13,400	6,636
1929	507,438	265,636	773,074	14,899	7,138

British Columbia.—The Workmen's Compensation Act, effective Jan. 1, 1917, provides compulsory accident insurance in almost every industrial occupation carried on in the province, protecting in 1929 approximately 175,000 employees with a payroll of over $189,000,000. Insurance rates levied against employees are graded according to the hazard of the industry. All employers under the Act are required in addition to deduct one cent per day or part thereof from the wages of employees and to remit this money to the Board to the credit of the medical aid fund, which provides all necessary medical and surgical and hospital expenses for injured employees. For statistics see Table **11.**

11.—Compensation Paid and Accidents Compensated by the British Columbia Workmen's Compensation Board, 1917-1929.

Year.	Compensation Paid.	Medical Aid Paid.	Total.	Claims (gross).
	$	$	$	No.
1917	603,274	62,668	665,942	13,685
1918	1,224,039	268,985	1,493,024	22,498
1919	1,394,696	289,108	1,683,304	18,185
1920	1,709,759	397,451	2,107,210	20,905
1921	1,771,126	431,748	2,202,874	16,883
1922	1,767,260	457,196	2,224,466	19,647
1923	2,157,918	514,762	2,672,680	24,184
1924	2,309,007	602,733	2,911,740	25,566
1925	2,419,372	618,942	3,038,314	27,563
1926	2,481,456	678,231	3,159,687	30,365
1927	2,654,200	643,594	3,297,794	30,066
1928	2,898,021	688,446	3,586,467	32,793
1929	3,588,626	752,623	4,341,249	36,750

Section 8.—Strikes and Lockouts.

Statistics of strikes and lockouts in Canada have been collected by the Dominion Department of Labour since its inception in 1900. Table **12** shows the number of disputes, the number of employees involved in disputes, and the time loss in working days for each year from 1901 to 1930 and the totals for the period. The items in the columns headed "time loss in working days" in the tables following are calculated by multiplying the number of persons directly involved in strikes and lockouts by the number of working days they are so affected during the time the disputes are in existence. The tables give the figures for previous years and a detailed analysis for 1929 and 1930.

The statistics have been revised back to 1901 and summary tables of the revised figures with details as to strikes and lockouts during 1930 may be found in the *Labour Gazette* for February, 1931, pp. 133-160.

Industrial Disputes in Recent Years.—In each of the years 1926, 1927, 1928 and 1929 the time loss in "man working days" from strikes and lockouts was less than in any year since 1916 and less than in most of the years back to 1901, when the record was begun. This was chiefly because there were no coal-mining disputes involving large numbers of workers for relatively long periods of time. The number of strikes and lockouts in existence in 1930 was 67, as compared with 90 in 1929, slightly less than for any recent year, but the number of employees involved was 13,768 in 1930 and 12,946 in 1929, less than in any other year since 1915. Table **12** shows the number of strikes and lockouts existing in each year and the number beginning in each year back to 1901, also the number of employees involved, with the time loss in man working days in each year. The table includes figures as to coal mining and industries other than coal mining. The time loss in 1930 was less than in any other year on record.

12.—Strikes and Lockouts in Canada by years, 1901-1930.

Year.	Coal Mining.			Industries other than Coal Mining.			All Industries.			
	Number of Disputes in Existence during year.	Number of Workers Involved.	Time Loss in Working Days.	Number of Disputes in Existence during year.	Number of Workers Involved.	Time Loss in Working Days.	Number of Disputes.		Number of Workers Involved.	Time Loss in Working Days.
							In Existence during the year.	Beginning in the year.		
1901	2	1,760	7,040	97	22,329	730,768	99	97	24,089	737,808
1902	3	510	10,120	122	12,199	193,181	125	124	12,709	203,301
1903	7	5,410	173,441	168	32,998	685,518	175	171	38,408	858,959
1904	4	184	792	99	11,236	192,098	103	103	11,420	192,890
1905	10	5,564	101,770	86	6,949	144,368	96	95	12,513	246,138
1906	13	4,549	146,622	137	18,833	231,654	150	149	23,382	378,276
1907	13	8,990	102,824	175	25,070	417,318	188	183	34,060	520,142
1908	7	3,541	13,600	69	22,530	689,971	76	72	26,071	703,571
1909	13	8,618	720,180	77	9,496	160,483	90	88	18,114	880,663
1910	3	2,950	485,000	98	19,253	246,324	101	94	22,203	731,324
1911	6	9,890	1,513,320	94	19,395	307,764	100	99	29,285	1,821,084
1912	2	2,243	107,240	179	40,617	1,028,546	181	179	42,860	1,135,786
1913	4	4,837	562,025	148	35,682	474,229	152	143	40,519	1,036,254
1914	3	2,500	280,800	60	7,217	210,050	63	58	9,717	490,850
1915	9	2,753	11,907	54	8,642	83,135	63	62	11,395	95,042
1916	8	11,270	72,387	112	15,268	164,427	120	118	26,538	236,814
1917	21	17,379	534,890	139	32,876	538,625	160	158	50,255	1,123,515
1918	46	22,920	130,696	184	56,823	517,246	230	228	79,743	647,942
1919	20	10,130	383,659	316	138,785	3,017,283	336	332	148,915	3,400,942
1920	35	12,128	99,920	287	48,199	699,604	322	310	60,327	799,524
1921	10	1,456	31,318	158	26,801	1,017,596	168	159	28,257	1,048,914
1922	21	26,475	798,548	83	17,300	730,113	104	89	43,775	1,528,661
1923	23	20,814	299,539	63	13,447	372,211	86	77	34,261	671,750
1924	15	21,201	1,089,484	55	13,109	205,570	70	64	34,310	1,295,054
1925	17	18,672	1,040,270	70	10,277	153,005	87	86	28,949	1,193,281
1926	16	8,445	35,193	61	15,389	231,408	77	75	23,834	266,601
1927	20	16,653	53,833	54	5,646	98,737	74	72	22,299	152,570
1928	14	5,033	88,000	84	12,518	136,212	98	96	17,581	224,212
1929	8	3,015	6,805	82	9,901	145,275	90	88	12,916	152,080
1930	15	6,228	24,183	52	7,540	67,614	67	67	13,768	91,797
Totals	**388**[1]	**266,148**[1]	**8,975,412**	**3,463**[1]	**716,355**[1]	**13,890,333**	**3,851**[1]	**3,736**	**982,593**[1]	**22,865,745**

[1] Figures for disputes extending over the end of a year are here counted more than once.

Table **13** is a record by months since 1925 and shows that the greatest time losses usually occur in the spring and summer months. The year 1930 was an exception, in that the greatest number of strikes originated in September and the largest time loss in February, followed closely by September and November. This large time loss was due to a strike of 500 fishermen at North Sydney in November, and to one of 1,300 coal miners at New Aberdeen in November. During September 1,400 coal miners at Springhill, N.S., were on strike for over a week, and 260 coal miners at River Hebert for two weeks, as well as 170 plasterers at Montreal for over a week. In February much time loss was incurred through disputes involving 950 coal miners at Glace Bay for a day and 1,800 women's clothing workers at Toronto, out for 7 days during February.

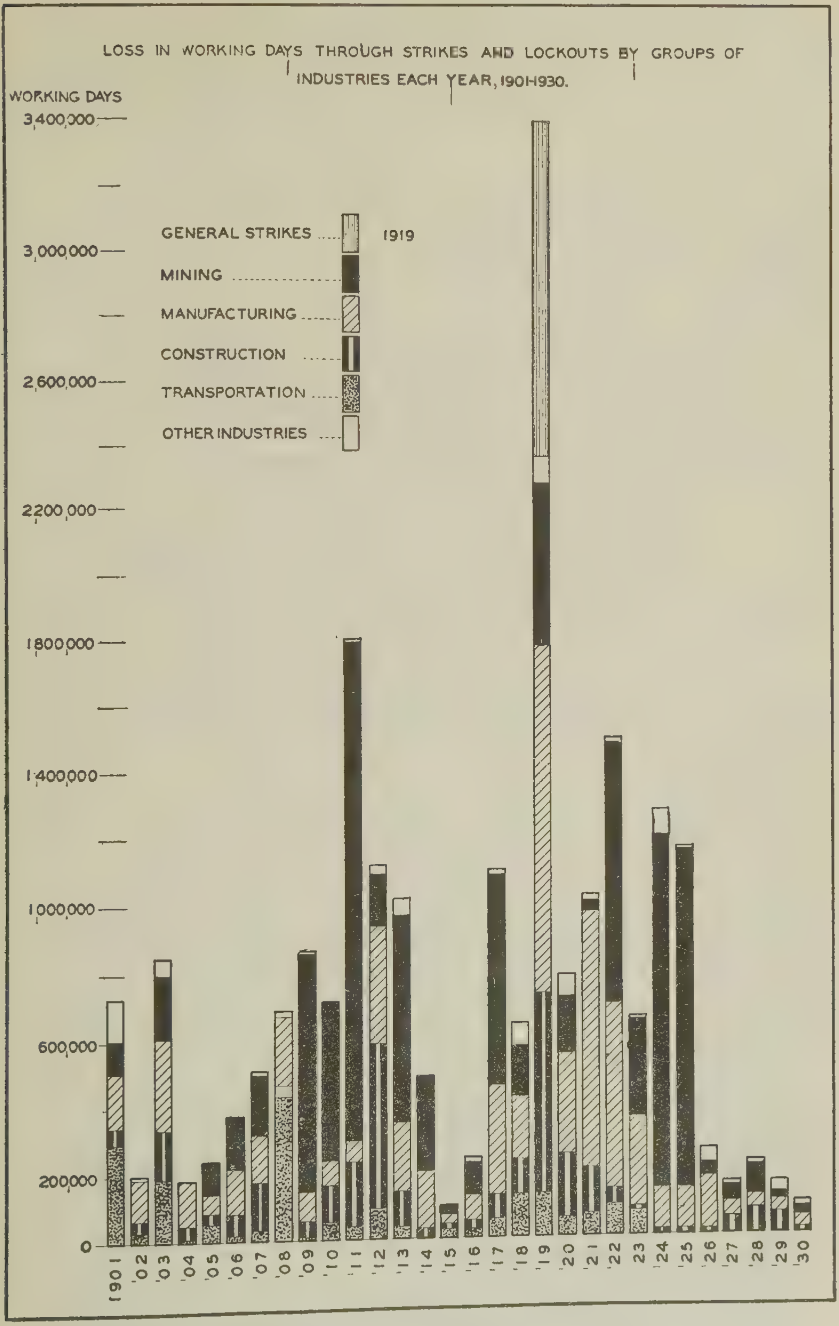
13.—Monthly Record of Strikes and Lockouts, 1925-1930.

Month.	Disputes in Existence.						Number of Employees Involved.					
	1925.	1926.	1927.	1928.	1929.	1930.	1925.	1926.	1927.	1928.	1929.	1930.
Jan.........	12	9	4	8	7	5	1,331	823	170	444	794	2,169
Feb.........	13	10	6	8	6	6	3,066	2,080	350	889	1,218	2,959
Mar.........	14	15	7	11	14	4	11,891	1,032	503	1,095	1,508	1,598
April.......	14	14	11	15	13	11	12,156	924	1,980	1,823	2,369	386
May........	17	12	18	18	24	12	13,746	4,018	5,731	3,385	5,106	1,836
June........	22	11	15	20	17	10	14,871	3,214	2,081	4,027	803	1,190
July........	18	15	11	19	8	6	13,458	10,924	3,342	3,333	370	196
Aug.........	16	10	10	20	9	3	13,430	4,326	6,194	4,582	957	66
Sept........	11	9	8	11	10	12	1,297	2,827	2,016	533	1,123	2,990
Oct.........	8	8	17	15	9	10	705	2,544	3,623	1,930	847	2,240
Nov........	11	8	11	16	7	6	4,445	1,133	1,633	1,440	738	2,000
Dec........	7	4	9	11	6	8	1,802	198	301	277	1,684	723
Totals[1].....	**87**	**77**	**74**	**98**	**90**	**67**	**28,949**	**23,834**	**22,299**	**17,581**	**12,946**	**13,768**

Month.	Time Loss in Working Days.					
	1925.	1926.	1927.	1928.	1929.	1930.
Jan.........................	4,115	8,321	1,255	5,229	8,319	7,254
Feb.........................	24,061	13,296	4,780	3,143	21,760	14,360
Mar.........................	158,558	12,651	6,205	6,476	3,723	7,049
April.......................	195,536	8,554	13,012	20,907	24,288	3,616
May.........................	194,359	48,497	27,257	34,733	39,152	9,293
June........................	211,863	33,589	14,430	24,901	6,231	4,007
July........................	211,543	50,710	12,187	21,380	1,279	2,152
Aug.........................	97,679	25,350	13,205	30,974	2,417	529
Sept........................	24,411	18,001	10,700	10,285	11,645	13,138
Oct.........................	8,364	33,294	35,415	30,481	7,858	9,931
Nov.........................	38,397	13,533	10,858	20,938	12,529	11,807
Dec.........................	24,395	805	3,236	14,765	12,879	8,661
Totals..............	**1,193,281**	**266,601**	**152,570**	**224,212**	**152,080**	**91,797**

[1] These totals relate only to the actual number of disputes in existence or the employees involved during the year and are not a summation of the monthly figures.

Table **14** is a record of industrial disputes, by provinces, for the years 1929 and 1930. In 1929 the chief time loss was in Ontario, where strikes of some magnitude occurred among pulpwood cutters in the vicinity of Port Arthur, and among cotton factory employees and steel car riveters at Hamilton, and painters, plumbers and plasterers at Toronto. In 1930, the chief time loss was in Nova Scotia, Quebec, and Ontario, due to disputes involving fishermen in Cape Breton Island, coal miners at Springhill, Nova Scotia, clothing factory workers in Montreal, Que., and clothing factory workers at Toronto, Ont.


LOSS IN WORKING DAYS THROUGH STRIKES AND LOCKOUTS BY GROUPS OF INDUSTRIES EACH YEAR, 1901-1930.
WORKING DAYS
3,400,000
3,000,000
2,600,000
2,200,000
1,800,000
1,400,000
1,000,000
600,000
200,000
0
GENERAL STRIKES
1919
MINING
MANUFACTURING
CONSTRUCTION
TRANSPORTATION
OTHER INDUSTRIES
1901
'02
'03
'04
'05
'06
'07
'08
'09
'10
'11
'12
'13
'14
'15
'16
'17
'18
'19
'20
'21
'22
'23
'24
'25
'26
'27
'28
'29
'30

14.—Strikes and Lockouts, by Provinces, Number of Workers Involved and Time Loss, 1929 and 1930.

Province.	1929.				1930.			
	No. of Disputes.	No. of Workers Involved.	Time Loss.		No. of Disputes.	No. of Workers Involved.	Time Loss.	
			Working Days.	P.C. of Total.			Working Days.	P.C. of Total.
Nova Scotia	11	2,969	6,554	4·3	18	7,050	40,112	43·7
Prince Edward Island	-	-	-	-	-	-	-	-
New Brunswick	-	-	-	-	4	186	1,311	1·4
Quebec	15	3,228	32,769	21·5	13	2,560	15,776	17·2
Ontario	40	5,456	90,736	59·7	18	3,472	28,299	30·8
Manitoba	5	144	1,529	1·0	-	-	-	-
Saskatchewan	1	56	200	·1	2	95	890	1·0
Alberta	3	321	10,142	6·7	5	174	2,260	2·5
British Columbia	12	691	9,920	6·5	7	231	3,149	3·4
Yukon Territory	2	70	80	·1	-	-	-	-
Interprovincial	1	11	150	·1	-	-	-	-
Totals	**90**	**12,946**	**152,080**	**100·0**	**67**	**13,768**	**91,797**	**100·0**

Table **15** shows strikes and lockouts by industries during 1929 and 1930, the most important during 1929 being in logging, mining, textile manufacturing, iron and steel manufacturing, and in building, while in 1930 most of the important disputes occurred in the fishing, mining, clothing manufacturing, and construction industries. A diagram showing the time loss by groups of industries since 1901 appears on page 769.

15.—Strikes and Lockouts, by Industries, 1929 and 1930.

Industry.	1929.						1930.					
	Disputes.		Workers Involved.		Time Loss.		Disputes.		Workers Involved.		Time Loss.	
	Number.	Per cent of Total.	Number.	Per cent of Total.	Man Working Days.	Per cent of Total.	Number.	Per cent of Total.	Number.	Per cent of Total.	Man Working Days.	Per cent of Total.
Logging	3	3·3	1,075	8·3	25,725	16·9	2	3·0	170	1·2	640	0·7
Fishing and trapping	-	-	-	-	-	-	2	3·0	700	5·1	12,400	13·5
Mining, etc[1]	10	11·1	3,115	24·1	15,885	10·5	15	22·3	6,228	45·2	24,183	26·3
Manufacturing	39	43·4	2,708	20·9	46,104	30·3	21	31·3	4,939	35·9	40,035	43·6
Vegetable foods, etc.	2	2·2	63	·5	1,012	·7	1	1·5	15	0·1	250	0·3
Tobacco and liquors	1	1·1	23	·2	60	·0	-	-	-	-	-	-
Rubber products	1	1·1	90	·7	335	·2	-	-	-	-	-	-
Boots and shoes (leather)	3	3·3	293	2·3	3,540	2·3	1	1·5	52	0·3	1,200	1·3
Fur, leather and other animal products	1	1·1	37	·3	1,000	·7	1	1·5	350	2·6	1,400	1·5
Textiles, clothing, etc.	14	15·6	1,353	10·3	19,913	13·1	11	16·4	4,295	31·2	33,483	36·5
Printing and publishing	3	3·4	61	·5	1,334	·9	1	1·5	8	0·1	32	0·0
Other wood products	3	3·4	132	1·0	204	·1	2	3·0	124	0·9	2,385	2·6
Metal products	11	12·2	656	5·1	18,706	12·3	4	5·9	95	0·7	1,285	1·4
Construction	29	32·2	5,766	44·5	59,084	38·8	20	29·9	1,367	10·0	12,367	13·5
Buildings and structures	26	28·9	5,596	42·2	56,344	37·0	16	23·9	1,252	9·1	11,198	12·2
Railway	-	-	-	-	-	-	1	1·5	20	0·2	120	0·1
Shipbuilding	2	2·2	160	1·2	2,730	1·8	-	-	-	-	-	-
Highway	-	-	-	-	-	-	1	1·5	25	0·2	25	0·0
Canal, harbour, waterway	1	1·1	10	·1	10	·0	1	1·5	32	0·2	150	0·2
Other	-	-	-	-	-	-	1	1·5	38	0·3	874	1·0
Transportation and Public Utilities	3	3·3	204	1·6	4,104	2·7	3	4·5	278	2·0	652	0·7
Steam railways	1	1·1	68	·5	68	·0	2	3·0	230	1·7	220	0·2
Electric railways	1	1·1	36	·3	36	·0	-	-	-	-	-	-
Water transportation	1	1·1	100	·8	4,000	2·7	1	1·5	48	0·3	432	0·5
Trade	1	1·1	36	·3	500	·3	-	-	-	-	-	-
Finance	1	1·1	11	·1	150	·1	-	-	-	-	-	-
Service	4	4·5	31	·2	528	·4	4	6·0	86	0·6	1,520	1·7
Public administration[1]	-	-	-	-	-	-	1	1·5	40	0·3	360	0·4
Recreational	3	3·4	19	·1	516	·4	3	4·5	46	0·3	1,160	1·3
Business and personal	1	1·1	12	·1	12	·0	-	-	-	-	-	-
Grand Totals	**90**	**100·0**	**12,946**	**100·0**	**152,080**	**100·0**	**67**	**100·0**	**13,768**	**100·0**	**91,797**	**100·0**

[1] Non-ferrous smelting is included with mining; water service is under public administration.

Causes and Results of Industrial Disputes.—During 1929 and 1930, as in previous years, most of the disputes were in regard to wages, or wages and working conditions, but also during these two years a large proportion of disputes (and these included some of the most important) were in regard to trade unionism, usually concerned with union wages and working conditions, including recognition of unions, closed shop, etc.

As in previous years many of the disputes during 1929 and 1930 were settled by negotiation; in 1930, out of a total of 65 disputes terminated during the year 28 settlements resulted from negotiation. An appreciable number of disputes terminated in the return of strikers or by their replacement, 24 being terminated in this manner in 1929.

Section 9.—Employment and Unemployment.

Subsection 1.—Operations of The Employment Service of Canada.

Employment Service of Canada.—Under sec. 3 of The Employment Offices Co-ordination Act (c. 57, R.S.C., 1927), an Act passed by the Dominion Parliament in May, 1918, the Minister of Labour is empowered:—

> "(*a*) to aid and encourage the organization and co-ordination of employment offices and to promote uniformity of methods among them;
>
> "(*b*) to establish one or more clearing houses for the interchange of information between employment offices concerning the transfer of labour and other matters;
>
> "(*c*) to compile and distribute information received from employment offices and from other sources regarding prevailing conditions of employment".

The Act further provides that certain sums of money are to be appropriated annually and paid to the provinces on a basis proportionate to the amount that each expends on the maintenance of employment offices.

The desired uniformity and co-ordination of employment office activities throughout the various provinces are obtained by having the Dominion payments contingent upon an agreement ensuring that the provinces, in the conduct of their employment offices, shall endeavour to fill situations in all trades and occupations for both men and women, and that no charge shall be made to employers or employees for this service. Each province agrees to maintain a provincial clearance system in co-operation with the interprovincial clearance system established by the Dominion Government, in order to secure the necessary mobility of labour as between localities in the same province or in different provinces. For the fiscal year 1930-31, agreements were concluded with all of the provinces except Prince Edward Island. Thus is formed the Employment Service of Canada—a chain of employment offices reaching from Halifax to Vancouver. At the time the Act came into force only 12 provincial employment offices were operated in Canada. This number was steadily increased until, at the close of 1919, due to the impetus given by the Employment Offices Co-ordination Act together with the requirements of the demobilization period, offices were functioning at 84 different centres. Subsequent contractions have reduced the Service to offices permanently located at 67 centres (on Dec. 31, 1930), distributed by provinces as follows:—Nova Scotia, 3; New Brunswick, 3; Quebec, 7; Ontario, 26; Manitoba, 3; Saskatchewan, 9; Alberta, 5; and British Columbia, 11.

Employment Service Council of Canada.—An Order in Council, issued in 1918 in pursuance of the Act, provided for the formation of a body to be advisory to the Minister of Labour in the administration thereof. This body, known as the Employment Service Council of Canada, is composed of representatives of the Dominion Departments of Labour and Pensions and National Health, the Provincial Governments, the Canadian Manufacturers' Association, the Canadian Construction Association, the Trades and Labour Congress of Canada, the Railway Association of Canada, the Railway Brotherhoods, the Canadian Lumbermen's Association, the Canadian Council of Agriculture and the returned soldiers. At the eleven annual meetings of the Council, the most recent of which was held on Aug. 21-22, 1930, various recommendations and suggestions relative to employment office administration were brought forward and presented to the Minister.

Operations of Employment Offices.—Statistics covering the work of the local offices are collected and tabulated by the Employment Service Branch of the Department of Labour. Table **16** shows the positions available, applications for work and placements effected by the Service in each year since 1920. During 1930 there were 612,990 applications for employment, 386,034 vacancies and 368,679 placements recorded, as compared with 550,726 applications, 428,027 vacancies and 398,367 placements in 1929. During 1930, 7 p.c. fewer placements were made than in 1929. Nearly one-half of all placements were of a casual nature, largely as a result of short terms of employment given, to persons otherwise unemployed, by municipalities and Provincial Governments on various relief schemes provided during the latter part of the year. All provinces except Nova Scotia, Ontario and Alberta showed a decline in placements, the heaviest loss being in British Columbia, where a decline in the number of workers transferred for harvest work in the Prairie Provinces was the outstanding feature. Construction and maintenance was the only industrial division to show a gain in placements.

The ratio of vacancies to applications was higher in 1929 than in 1930, as was also the ratio of placements to applications. For each 100 applicants registered during 1929 there were 77·7 vacancies and 72·3 placements, while there were 63·0 vacancies and 60·1 placements for each 100 applicants in 1930.

Reduced Railway Fares.—In order to facilitate the movement of labour in cases where there are not enough workers in any one locality to fill the available vacancies, the Employment Service, by special arrangement with nearly all the members of the Canadian Passenger Association, has been granted the privilege of issuing certificates which entitle the bearers to purchase railway fares at the reduced rate of 2·7 cents per mile. This rate is for a second class ticket and is applicable only to fares of not less than $4. During 1929, 30,896 certificates were issued, 17,230 to persons proceeding to points within the same province as the despatching office, and 13,666 to workers going to points in other provinces. Of the certificates issued 3,408 were issued in British Columbia to persons proceeding to the Prairie Provinces to engage in harvesting operations; these travelled at harvesters' rates, which were cheaper than the 2·7 cents per mile rate. During 1930, 13,938 certificates for special rates were granted, 10,746 to persons travelling to employment within the same province as the despatching office, and 3,192 to persons for whom employment had been secured in other provinces; these included 13 certificates issued for the special harvest rate from British Columbia to the Prairie Provinces.

16.—Applications for Employment, Positions Offered and Placements Effected by the Employment Service of Canada, by Provinces, 1929-1930,[1] and for Canada, 1920-1930.

Province.	Year.	Applications Registered.		Vacancies Notified.		Placements Effected.	
		Men.	Women.	Men.	Women.	Men.	Women.
Nova Scotia	1929	5,027	4,359	4,930	4,352	4,795	3,738
	1930	4,817	5,486	4,397	5,097	4,336	4,532
New Brunswick	1929	4,962	5,139	4,581	5,204	4,487	5,040
	1930	4,721	5,417	4,118	5,547	4,026	5,332
Quebec	1929	40,766	10,021	19,379	8,790	19,717	6,196
	1930	33,749	11,316	12,513	7,731	11,661	6,077
Ontario	1929	160,681	69,458	133,578	54,715	122,283	41,814
	1930	206,866	70,676	136,475	43,655	133,644	35,118
Manitoba	1929	38,429	26,858	21,669	25,509	28,783	24,065
	1930	41,061	22,277	22,675	19,866	24,759	19,254
Saskatchewan	1929	38,729	13,435	40,546	12,155	33,142	11,006
	1930	40,225	11,313	33,092	8,563	30,423	8,135
Alberta	1929	47,683	11,050	37,529	10,755	37,173	9,345
	1930	66,503	10,923	39,660	8,271	39,813	7,931
British Columbia	1929	61,250	12,879	34,380	10,305	36,748	10,035
	1930	65,161	12,479	25,905	8,469	25,565	8,073
Canada	**Totals, 1920**	**480,735**	**96,054**	**450,526**	**116,142**	**365,292**	**80,520**
	Totals, 1921	**438,836**	**105,563**	**325,498**	**106,097**	**277,792**	**77,964**
	Totals, 1922	**443,875**	**104,407**	**365,529**	**104,359**	**316,386**	**77,136**
	Totals, 1923	**473,483**	**115,692**	**431,576**	**109,404**	**376,801**	**85,751**
	Totals, 1924	**402,593**	**116,782**	**314,258**	**97,810**	**285,359**	**80,773**
	Totals, 1925	**439,022**	**118,023**	**345,570**	**101,473**	**328,334**	**84,491**
	Totals, 1926	**417,965**	**124,504**	**345,163**	**111,769**	**319,558**	**90,597**
	Totals, 1927	**422,022**	**131,849**	**339,478**	**114,095**	**320,306**	**94,463**
	Totals, 1928	**454,525**	**142,968**	**376,791**	**129,635**	**361,942**	**108,386**
	Totals, 1929	**397,527**	**153,199**	**296,592**	**131,435**	**287,128**	**111,239**
	Totals, 1930	**463,103**	**149,887**	**278,835**	**107,199**	**274,227**	**94,452**

[1] Figures by provinces and years for 1920-25 will be found at p. 703 of the 1926 Year Book and for 1926-28 at p. 731 of the 1930 Year Book.

Subsection 2.—Unemployment as Reported by Trade Unions.

Monthly statistics on unemployment are compiled and published by the Employment Service Branch of the Dominion Department of Labour, based on returns received from 1,700 local trade unions having an aggregate membership of 200,000 workers. "Unemployment" as here used means involuntary idleness, due to economic causes. Persons engaged in work other than their own trades, or idle because of illness, are not considered as unemployed, while unions involved in industrial disputes are excluded from the tabulations. As the number of unions making returns varies from month to month, with consequent variation in the membership upon which the percentages of unemployment are based, it should be understood that the figures for each month have reference only to the reporting organizations. Table **17** is a record of unemployment in trade unions for the past 16 years, by provinces. The maximum of unemployment in 1930 was in December, when the percentage stood at 17·0; in 1929, the December figure of 11·4 p.c. constituted the maximum. In 1930 the minimum, reached in April, was 9·0 p.c., while the minimum for 1929 was 2·9 p.c., attained in June. Employment among organized workers, as indicated by these statistics, was less active on the average in 1930 than in 1929, the average of the monthly figures of unemployment for 1930 being 11·1 p.c., while for 1929 the corresponding figure was 5·7 p.c.

17.—Percentages of Unemployment in Trade Unions, by Provinces, 1915-1930.

NOTE.—For the percentages of unemployment for 12 months in 1921 and 1922, see p. 732 of the 1922-23 Year Book; for 12 months in 1923, p. 688 of the 1924 Year Book; for 12 months in 1924, p. 700 of the 1925 Year Book; for 12 months in 1925, p. 701 of the 1926 Year Book; for 12 months in 1926, p. 757 of the 1927-28 Year Book; for 12 months in 1927, p. 745 of the 1929 Year Book, and for 12 months in 1928 and 1929, p. 733 of the 1930 Year Book.

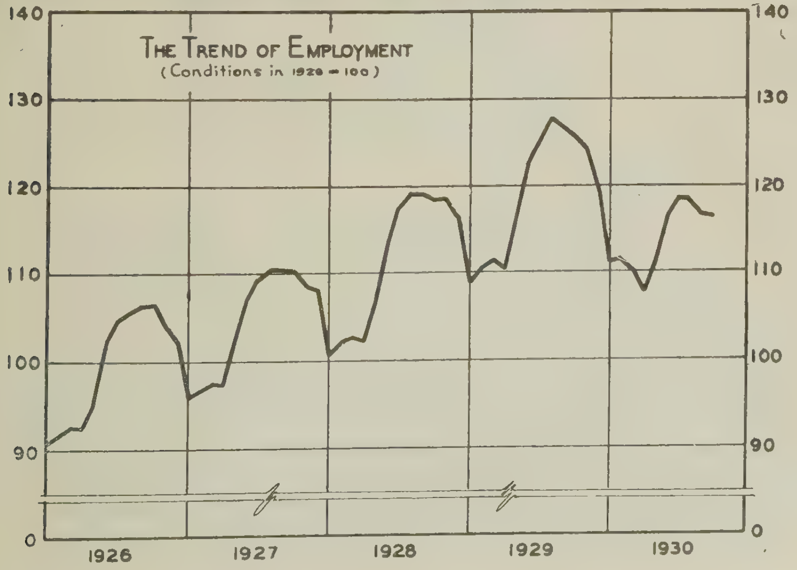
Month.	Year.	Nova Scotia and P.E.I.	New Brunswick.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Canada.
Dec.	1915	·4	·7	9·5	8·1	3·2	7·0	4·3	14·8	7·9
June	1916	·5	·9	1·8	1·7	1·2	2·6	3·1	5·4	2·1
Dec.	1916	·4	·2	3·7	1·6	1·0	1·6	1·7	2·4	2·0
June	1917	·2	·2	2·5	·9	·6	·3	·8	1·8	1·2
Dec.	1917	2·6	4·1	3·2	2·4	1·1	2·4	1·6	3·2	2·5
June	1918	·2	·3	·4	·4	·3	·2	·4	·9	·4
Dec.	1918	2·0	·4	2·2	2·9	1·3	2·2	2·1	4·0	2·5
June	1919	2·7	2·4	4·0	1·8	1·2	2·5	1·7	3·4	2·6
Dec.	1919	1·5	2·0	3·2	1·9	5·0	6·0	2·8	18·6	4·3
June	1920	·6	·4	3·1	1·6	1·4	2·2	1·2	5·8	2·1
Dec.	1920	6·9	11·0	19·6	12·3	7·8	10·1	9·2	11·6	13·0
June	1921	14·3	11·7	20·7	6·7	8·0	6·8	9·4	24·4	13·2
Dec.	1921	5·9	6·9	26·8	9·7	15·5	10·4	6·8	24·7	15·1
June	1922	7·2	3·5	5·4	3·9	6·7	5·0	7·1	7·1	5·3
Dec.	1922	3·2	6·1	7·8	4·7	7·8	4·1	5·1	13·3	6·4
June	1923	2·2	1·0	5·7	1·6	5·6	1·3	4·5	4·0	3·4
Dec.	1923	7·3	3·6	9·7	6·4	6·5	4·2	6·0	7·1	7·2
June	1924	6·4	5·2	9·4	4·9	4·9	2·3	3·7	2·2	5·8
Dec.	1924	4·7	6·9	22·4	8·1	8·9	4·2	5·0	10·2	11·6
June	1925	3·4	3·4	10·2	3·8	4·3	2·4	10·8	4·1	6·1
Dec.	1925	4·3	3·0	14·2	6·4	3·8	3·5	4·4	6·9	7·9
June	1926	3·8	1·6	8·9	1·9	2·6	·8	4·9	2·6	4·1
Dec.	1926	3·2	2·2	7·6	5·6	4·3	2·1	6·7	7·5	5·9
June	1927	1·8	2·3	4·0	3·1	2·6	1·1	4·6	2·7	3·2
Dec.	1927	4·3	1·5	9·3	5·1	5·4	5·6	3·7	10·5	6·6
June	1928	·5	·8	5·6	2·4	2·1	1·1	3·3	3·6	3·2
Dec.	1928	3·9	·9	10·7	4·0	8·1	4·4	6·9	6·9	6 6
June	1929	3·3	1·0	2·9	2·5	3·1	2·8	4·3	2·6	2·9
Dec.	1929	5·2	2·4	14·5	9·7	12·8	13·0	13·9	11·5	11·4
Jan.	1930	7·8	4·0	11·3	9·8	10·0	12·1	13·7	13·8	10·8
Feb.	1930	6·1	3·2	12·1	11·1	10·4	15·0	14·9	14·8	11·5
Mar.	1930	5·5	3·9	10·0	10·8	10·5	14·7	16·9	12·4	10·8
April	1930	5·6	2·8	8·3	8·8	8·9	11·0	15·6	9·7	9·0
May	1930	4·1	2·2	14·8	7·7	9·0	7·9	16·5	10·6	10·3
June	1930	3·3	2·8	17·5	7·4	9·2	8·9	14·3	8·4	10·6
July	1930	5·8	2·5	11·5	8·1	8·4	8·2	12·7	8·8	9·2
Aug.	1930	5·2	1·6	12·3	8·5	7·2	6·7	11·6	8·9	9·3
Sept.	1930	5·2	2·3	12·7	9·6	6·5	4·9	8·7	10·1	9·4
Oct.	1930	4·1	4·6	14·5	11·2	8·8	7·7	9·2	10·5	10·8
Nov.	1930	4·4	5·1	19·2	13·9	10·9	12·7	10·9	14·0	13·8
Dec.	1930	7·5	8·7	22·8	17·3	14·2	15·9	13·8	16·8	17·0

Subsection 3.—Employment as Reported by Employers.

The Dominion Bureau of Statistics tabulates monthly reports of the numbers employed by firms having 15 or more persons on their staffs; the returns are representative of practically every industry except agriculture and the more specialized business and professional callings. During 1930, some 7,260 of these employers reported an average working force of 993,845 persons, varying from 941,427 on Jan. 1 to 1,043,232 at the beginning of July. In Canada, as in other parts of the world, there was a general slackening in industrial activity during 1930, resulting in a lower level of employment than in 1929, and also than in some months of 1928. With these exceptions, however, the general index was higher than in previous years of the record. The accompanying tables give monthly index numbers of employment for 1929 and 1930 in the economic areas, leading cities and industries, with yearly averages for periods of seven to eight years. The indexes are calculated upon the averages for the calendar year 1926 as 100.

Employment showed partial recovery at the beginning of February from the year-end losses, but in the next two months the trend was downward. From May 1 until July 1, steady improvement was recorded and the situation on Aug. 1 showed little change; from the beginning of September, however, curtailment was again indicated, and on Dec. 1 the index was nearly three points lower than on Jan. 1, although it was higher than the average for the years 1921-1927.

Employment by Economic Areas.—In all except the Maritime Provinces, employment was in smaller volume than in 1929. The index numbers were higher in the Maritime Provinces than elsewhere; this was largely due to the execution of an important program of road construction and improvement work undertaken during the summer. Table **18** is a record of employment in the five economic areas, by months, since 1929, and the following graph illustrates the trend of employment generally over the latest five years.



18.—Index Numbers of Employment as Reported by Employers in Economic Areas, as at the First of each Month, January, 1929, to December, 1930, with Yearly Averages since 1921.

Note.—These indexes are calculated upon the average for the calendar year 1926 as 100. The relative weight shows the proportion of employees reported in the indicated economic area to the total reported by all employers making returns in Canada on Dec. 1, 1930.

Year and Month.	Maritime Provinces.	Quebec.	Ontario.	Prairie Provinces.	British Columbia.	Canada.
Averages, 1921	**102·4**	**82·2**	**90·6**	**94·0**	**81·1**	**88·8**
Averages, 1922	**97·3**	**81·4**	**92·8**	**92·6**	**82·8**	**89·0**
Averages, 1923	**105·7**	**90·7**	**99·5**	**94·8**	**87·4**	**95·8**
Averages, 1924	**96·6**	**91·3**	**95·5**	**92·1**	**89·4**	**93·4**
Averages, 1925	**97·0**	**91·7**	**95·8**	**92·0**	**93·7**	**93·6**
Averages, 1926[1]	**99·4**	**99·4**	**99·6**	**99·5**	**100·2**	**99·6**
Averages, 1927	**103·7**	**104·0**	**105·6**	**105·3**	**101·1**	**104·6**
Averages, 1928	**106·6**	**108·3**	**113·8**	**117·9**	**106·4**	**111·6**
1929.						
Jan. 1	103·3	103·3	113·8	116·6	100·4	109·1
Feb. 1	104·6	105·9	117·0	113·1	96·4	110·5
Mar. 1	106·8	104·7	118·4	112·3	103·7	111·4
April 1	107·5	101·1	117·4	113·9	106·0	110·4
May 1	108·3	107·3	123·8	119·7	111·6	116·2
June 1	112·5	115·9	126·2	132·4	117·5	122·2
July 1	117·9	119·4	127·2	136·7	118·2	124·7
Aug. 1	127·5	121·3	128·0	144·8	122·7	127·8
Sept. 1	127·3	120·5	126·9	143·3	121·5	126·8
Oct. 1	123·7	120·2	128·4	134·2	118·2	125·6
Nov. 1	124·6	122·8	126·5	129·5	113·9	124·6
Dec. 1	113·3	118·4	123·1	119·0	108·3	119·1
Averages	**114·8**	**113·4**	**123·1**	**126·3**	**111·5**	**119·0**
1930.						
Jan. 1	113·6	107·4	116·1	111·0	99·1	111·2
Feb. 1	112·1	108·2	117·1	109·8	99·9	111·6
Mar. 1	110·2	106·6	115·6	105·3	104·2	110·2
April 1	107·8	103·7	112·7	103·2	106·0	107·8
May 1	113·1	106·1	115·7	109·2	110·7	111·4
June 1	122·4	114·5	117·8	115·8	113·3	116·5
July 1	141·1	116·8	116·9	120·4	113·5	118·9
Aug. 1	140·9	114·7	115·7	126·2	115·8	118·8
Sept. 1	122·5	113·6	113·6	129·8	114·6	116·6
Oct. 1	116·2	113·0	114·6	130·0	112·1	116·2
Nov. 1	110·1	111·9	111·6	125·8	105·4	112·9
Dec. 1	109·5	106·7	108·2	118·6	100·0	108·5
Averages	**118·3**	**110·3**	**114·6**	**117·1**	**107·9**	**113·4**
Relative weight of employment in economic areas as at Dec. 1, 1930	7·7	28·3	40·8	14·9	8·3	100·0

[1] The average for the calendar year 1926, including figures up to Dec. 31, 1926, being the base used in computing these indexes, the average index here given for the 12 months Jan. 1-Dec. 1, 1926, generally shows a slight variation from 100.

Employment in Cities.—Separate tabulations are made for the eight leading industrial centres:—Montreal, Quebec, Toronto, Ottawa, Hamilton, Windsor and the adjoining "Border Cities", Winnipeg and Vancouver. In Quebec city, Ottawa and Vancouver, the index of employment was on the whole rather higher than in 1929. Activity in the other five centres, however, was reduced as compared with the preceding year, but all centres except Windsor and Winnipeg showed a higher level of employment as compared with 1928, and activity was generally greater than in earlier years of the record.

19.—Index Numbers of Employment as Reported by Employers in Leading Cities, as at the First of each Month, January, 1929, to December, 1930, with Yearly Averages since 1922.

NOTE.—These indexes are calculated upon the average for the calendar year 1926 as 100. The relative weight shows the proportion of employees reported in the indicated city to the total reported by all employers making returns in Canada on Dec. 1, 1930.

Year and Month.	Montreal.	Quebec.	Toronto.	Ottawa.	Hamilton.	Windsor.[2]	Winnipeg.	Vancouver.
Averages, 1922.....	**86·0**	–	**96·1**	–	–	–	**93·9**	**81·5**
Averages, 1923.....	**92·7**	–	**98·0**	**107·2**	**94·6**	–	**90·6**	**82·5**
Averages, 1924.....	**93·0**	**99·6**	**94·3**	**102·3**	**86·0**	–	**86·5**	**86·2**
Averages, 1925.....	**94·2**	**97·9**	**95·7**	**100·1**	**88·0**	**85·1**	**88·5**	**92·6**
Averages, 1926[1]....	**99·7**	**99·1**	**99·6**	**100·0**	**99·3**	**99·9**	**99·2**	**99·9**
Averages, 1927.....	**103·0**	**111·3**	**105·7**	**107·7**	**103·1**	**86·2**	**104·1**	**100·7**
Averages, 1928.....	**108·2**	**119·9**	**112·1**	**115·8**	**108·2**	**137·3**	**110·1**	**104·3**
1929.								
Jan. 1............	104·6	114·7	115·5	107·8	116·7	137·5	109·9	102·9
Feb. 1............	106·9	114·3	115·9	110·3	120·3	159·6	108·1	100·4
Mar. 1............	107·5	112·8	116·6	109·4	123·5	168·5	107·6	104·5
April 1............	108·2	116·2	118·6	111·2	126·1	177·3	108·0	107·7
May 1............	114·2	117·1	120·7	123·7	130·6	189·5	110·9	109·9
June 1............	119·3	122·0	122·1	127·8	133·1	168·3	111·5	110·9
July 1............	120·3	128·8	123·7	128·4	133·9	156·0	114·0	112·8
Aug. 1............	122·4	135·8	122·9	128·3	135·8	142·0	117·3	114·1
Sept. 1............	120·2	136·5	125·0	126·9	131·1	143·4	115·5	114·7
Oct. 1............	120·5	131·7	126·3	127·9	130·5	138·4	115·1	111·7
Nov. 1............	121·8	133·6	125·0	125·0	130·4	134·9	115·8	111·6
Dec. 1............	117·1	127·1	122·9	121·8	128·7	123·5	113·8	109·4
Averages......	**115·3**	**124·2**	**121·3**	**120·7**	**128·4**	**153·2**	**112·3**	**109·2**
1930.								
Jan. 1............	107·2	123·4	117·6	119·1	123·8	116·5	109·9	104·2
Feb. 1............	109·5	112·5	116·4	115·4	122·8	128·1	106·9	107·2
Mar. 1............	108·7	110·0	115·9	116·0	120·4	136·7	104·6	108·3
April 1............	109·2	111·7	116·5	116·2	120·4	140·9	103·4	110·4
May 1............	110·8	115·3	117·8	125·3	118·4	150·5	105·7	110·8
June 1............	116·6	122·3	118·5	130·4	118·0	149·4	107·1	110·8
July 1............	116·0	130·1	117·8	129·4	115·0	134·9	109·6	110·2
Aug. 1............	114·5	138·2	115·4	131·8	112·6	120·8	110·3	111·7
Sept. 1............	113·2	138·5	114·7	125·6	105·6	121·2	110·7	114·0
Oct. 1............	114·1	138·3	116·2	127·5	103·7	113·9	109·5	112·1
Nov. 1............	112·6	135·3	115·5	124·6	102·0	116·5	108·6	110·4
Dec. 1............	108·6	128·0	113·8	116·0	104·6	113·6	104·3	107·4
Averages......	**111·8**	**125·3**	**116·3**	**123·1**	**113·9**	**128·6**	**107·6**	**109·8**
Relative weight, by cities, as at Dec. 1, 1930[3].....	14·1	1·4	12·7	1·3	3·4	1·5	3·3	3·2

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[1] The average for the calendar year 1926, including figures up to Dec. 31, 1926, being the base used in computing these indexes, the average index here shown for the 12 months, Jan. 1-Dec. 1, 1926, generally shows a slight variation from 100.

[2] Includes adjacent "Border Cities".

[3] Percentages of Dominion total.

Employment by Industries.—Employment in manufacturing, logging, mining, communications and transportation was in smaller volume than in 1929; in construction, the index averaged practically the same, while activity in services and trade was on the whole slightly greater. Within the manufacturing industries, the heaviest losses during 1930 were in the iron and steel, rubber and lumber groups. On the other hand, the vegetable food, tobacco, electric current, electrical apparatus, chemical and non-metallic mineral industries reported a higher level of employment than in 1929. Table **20** gives index numbers of employment by main industrial groups.

20.—Index Numbers of Employment as Reported by Employers, by Industries, as at the First of each Month, January, 1929, to December, 1930, with Yearly Averages since 1921.

Note.—These indexes are calculated upon the averages for the calendar year 1926 as 100. The relative weight shows the proportion of employees reported in the indicated industry to the total reported by all employers making returns in Canada on Dec. 1, 1929.

Year and Month.	Manufacturing.	Logging.	Mining.	Communications.	Transportation.	Construction and Maintenance.	Services.	Trade.	All Industries.
Averages, 1921	**87·7**	**103·0**	**98·0**	**90·2**	**94·1**	**71·1**	**83·6**	**92·7**	**88·8**
Averages, 1922	**88·3**	**85·1**	**99·5**	**86·4**	**97·8**	**76·7**	**81·9**	**90·8**	**89·0**
Averages, 1923	**96·6**	**114·2**	**106·2**	**87·6**	**100·3**	**80·9**	**87·9**	**92·1**	**95·8**
Averages, 1924	**92·4**	**116·7**	**105·3**	**93·7**	**99·1**	**80·3**	**93·8**	**92·5**	**93·4**
Averages, 1925	**93·0**	**105·4**	**99·8**	**95·5**	**96·6**	**84·9**	**95·4**	**95·1**	**93·6**
Averages, 1926[1]	**99·6**	**99·5**	**99·7**	**99·6**	**99·7**	**99·2**	**99·5**	**99·2**	**99·6**
Averages, 1927	**103·4**	**109·3**	**107·0**	**103·8**	**102·5**	**109·0**	**106·2**	**107·4**	**104·6**
Averages, 1928	**110·1**	**114·5**	**114·4**	**108·2**	**105·9**	**118·8**	**118·1**	**116·1**	**111·6**
1929.									
Jan. 1	107·3	171·0	116·2	112·6	102·6	87·4	118·0	128·5	109·1
Feb. 1	112·8	178·3	117·8	110·9	101·6	79·3	117·3	119·7	110·5
Mar. 1	115·7	167·8	115·9	112·0	99·8	80·0	118·4	117·8	111·4
April 1	116·5	83·1	112·9	113·5	101·8	85·4	121·1	122·5	110·4
May 1	119·8	75·8	115·6	117·3	108·1	112·0	121·6	124·0	116·2
June 1	121·2	92·7	115·8	120·9	113·9	144·6	131·1	126·0	122·2
July 1	120·3	80·1	119·5	123·8	117·5	164·5	145·4	127·7	124·7
Aug. 1	121·6	74·0	122·1	126·0	117·2	186·8	146·6	126·1	127·8
Sept. 1	119·8	83·6	123·8	128·8	117·2	181·3	146·6	127·8	126·8
Oct. 1	120·2	117·1	126·6	128·1	114·3	162·4	141·0	128·2	125·6
Nov. 1	117·2	173·3	128·0	125·8	113·8	153·6	131·6	130·7	124·6
Dec. 1	112·8	212·3	127·2	127·5	108·4	119·0	125·3	135·4	119·1
Averages	**117·1**	**125·8**	**120·1**	**120·6**	**109·7**	**129·7**	**130·3**	**126·2**	**119·0**
1930.									
Jan. 1	106·5	200·2	122·5	128·2	101·9	92·7	123·5	133·8	111·2
Feb. 1	110·2	209·8	123·0	120·7	98·2	88·0	125·2	124·6	111·6
Mar. 1	110·9	178·3	119·8	118·7	97·7	83·7	125·0	123·0	110·2
April 1	111·3	87·6	114·5	117·1	99·5	86·4	126·1	123·1	107·8
May 1	112·4	63·5	114·1	117·3	104·3	112·0	128·9	125·6	111·4
June 1	113·6	90·0	115·6	119·5	108·0	137·0	134·7	127·6	116·5
July 1	111·3	82·1	113·8	119·7	108·0	170·1	142·7	129·5	118·9
Aug. 1	110·2	61·5	115·5	121·0	108·9	179·8	142·4	126·4	118·8
Sept. 1	108·2	54·3	116·6	120·9	110·2	169·2	143·4	127·3	116·6
Oct. 1	107·8	70·8	118·9	119·5	110·1	163·0	136·7	127·9	116·2
Nov. 1	104·6	90·9	121·9	119·9	106·0	148·8	126·9	129·2	112·9
Dec. 1	100·6	106·5	117·8	115·3	102·5	127·3	123·9	134·8	108·5
Averages	**108·9**	**108·0**	**117·8**	**119·8**	**104·6**	**129·8**	**131·6**	**127·7**	**113·4**
Relative weight, by industries, as at Dec. 1, 1930	50·7	3·0	5·5	3·1	12·3	13·4	2·2	9·8	100·0

[1] The average for the calendar year 1926, including figures up to Dec. 31, 1926, being the base used in computing these indexes, the average index here given for the 12 months Jan. 1—Dec. 1, 1926, generally shows a slight variation from 100.

Subsection 4.—The Unemployment Relief Act, 1930.

The Dominion Unemployment Relief Act, 1930, was enacted by the Seventeenth Parliament in September, 1930. The Act specifies that $20,000,000 might be expended "in constructing, extending or improving public works and undertakings, railways, highways, bridges, and canals, harbours and wharves; assisting in defraying the cost of distribution of products of the field, farm, forest, sea, lake, river and mine; granting aid to provinces and municipalities in any public work they may undertake for relieving unemployment and reimbursing expenditures made by provinces and municipalities in connection with unemployment, and generally in any way that will assist in providing useful and suitable work for the unemployed". Administration of the Act is vested in the Minister of Labour and an advisory committee on expenditure consisting of the Minister of Railways and Canals, the Minister of Public Works, the Minister of the Interior and the Minister of Marine. Under the regulations governing the administration of the Act the Minister is authorized to enter into agreements with the several provinces for the expenditure of the $20,000,000 appropriated under the Act, either for the purpose of immediate relief or for assisting local public works undertaken to provide employment. The sum of $4,000,000 was set aside to provide for the payment to municipalities of one-third of their expenditures in the direct relief of persons for whom work could not be procured, the Provincial Governments and the municipalities each being required to assume responsibility for one-third of the expenditure for this purpose.

In regard to public work undertaken for the relief of unemployment the regulations provide that agreements should be made between the Minister and the Provincial Governments whereby the municipalities would pay one-half the total expenditures on public works undertaken by them, the Dominion and Provincial Government concerned each contributing one-fourth of the total amount. Exception is made where municipalities, by reason of recent abnormal expenditures for unemployment relief, are unable to bear half the cost of such public works. All agreements under the Act must be in accordance with the principles contained in the Fair Wages and Eight-Hour Day Act, 1930.

Agreements have been entered into with the Canadian Pacific Railway Company and the Canadian National Railways whereby there will be expended by these railway companies a sum of approximately $26,000,000 in the performance of certain works and the purchase of certain material over and above the normal expenditure of the said railways, such works to be commenced immediately and to be completed within the next fifteen months. As compensation to the said railway companies the Dominion agrees to pay out of the amount appropriated by the Unemployment Relief Act interest at the rate of 5 p.c., calculated for a period of 18 months, on the total estimated cost of the works.

A grant of $500,000 has also been made to the Railway Grade Crossing Fund, from which fund, under the provisions of the Railway Act, contributions are made for the purpose of obviating dangerous level crossings, in order to provide employment.

The following summary will show the standing of the appropriation as at Dec. 31, 1930.

21.—Unemployment Relief Allotments and Commitments under the Unemployment Relief Act, by Provinces, as at Dec. 31, 1930.

Province.	Allotment.	Dominion Commitments Approved.	Balance Unallotted.	Total Cost of Public Works.
	$	$	$	$
Prince Edward Island	90,000	77,000	13,000	174,000
Nova Scotia	700,000	625,878	74,122	2,104,339
New Brunswick	500,000	203,150	296,850	406,300
Quebec	2,850,000	2,685,802	164,198	9,721,350
Ontario	3,850,000	2,843,920	1,006,080	13,541,147
Manitoba	900,000	768,693	131,307	2,348,432
Saskatchewan	1,000,000	457,247	542,753	1,565,291
Saskatchewan (Drought Area)	500,000	500,000	–	500,000
Alberta	900,000	862,484	37,516	2,667,536
British Columbia	900,000	777,759	122,241	2,427,170
Yukon	20,000	20,000	–	20,000
Direct Relief	4,000,000	5,000	3,995,000	–
Grade Crossing	500,000	500,000	–	1,239,360
Canadian Pacific Ry. Co	863,550	863,550	–	11,514,000
Canadian National Rys	882,412	882,412	–	14,159,403
Balance	1,444,038	–	1,444,038	–
Administration	100,000	5,235	94,765	–
Totals	**20,000,000**	**12,078,130**	**7,921,870**	**62,388,328**

Section 10.—Old Age Pensions.

The Old Age Pensions Act, 1927.—An Act respecting Old Age Pensions (R.S.C., 1927, c. 156), was adopted by the Dominion Parliament in 1927. Under The Old Age Pensions Act, the Governor in Council is authorized to make an agreement with the Government of any province for the payment to such province quarterly of one-half the net sum paid out by such province for old age pensions, pursuant to a provincial statute providing for the payment of such pensions to the persons and under the conditions specified in the Act and the Regulations made thereunder.[1]

Sec. 5 provides that before any such agreement is made with the province, the scheme for the administration of pensions proposed to be adopted by the province shall be approved by the Governor in Council, and that no change in such scheme shall be made without the consent of the Governor in Council.

Sec. 8 is as follows:—

> (1) Provision shall be made for the payment of a pension to every person who, at the date of the proposed commencement of the pension:—
>
> (*a*) is a British subject, or, being a widow who is not a British subject, was such before her marriage;
>
> (*b*) has attained the age of seventy years;
>
> (*c*) has resided in Canada for the twenty years immediately preceding the date aforesaid;
>
> (*d*) has resided in the province in which the application for pension is made for the five years immediately preceding the said date;
>
> (*e*) is not an Indian as defined by the Indian Act;
>
> (*f*) is not in receipt of an income of as much as three hundred and sixty-five dollars ($365) a year, and
>
> (*g*) has not made any voluntary assignment or transfer of property for the purpose of qualifying for a pension.
>
> (2) The receipt of a pension shall not by itself constitute a disqualification from voting at any provincial or municipal election.

Sec. 9 provides that the maximum pension payable shall be $240 yearly, subject to reduction by the amount of the income of the pensioner in excess of $125 a year. The pension authority may accept a transfer of the pensioner's interest in a dwelling house in which he resides, when the value of the dwelling will not be computed in calculating the amount of pension payable. The pension authority is entitled to recover out of the estate of any deceased pensioner the amount of pension payments with interest at 5 p.c., subject to the limitation that no claim shall be made for such recovery out of any part of the estate which passes by will or intestacy to any other pensioner or to any other person who has contributed, since the grant of the pension, or for the last three years during which the pension has been paid, to the pensioner's support.

Secs. 10, 12, 13 and 14 provide for the distribution of the pension burden among the provinces where the pensioner has resided during the 20 years immediately preceding the grant of the pension. Sec. 11 provides for a reduction of pension where a pensioner has resided for a portion of the 20 years in a province with which no agreement is in force. Sec. 15 provides for a suspension of the pension where a pensioner has transferred his residence to some place out of

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[1] These Regulations as consolidated are printed *in extenso* at p. 127 of the Annual Report of the Department of Labour for the fiscal year ended Mar. 31, 1930.

Canada. It is provided by sec. 16 that a pension shall not be subject to alienation or transfer by the pensioner or to seizure in satisfaction of any claim against him. The Governor in Council was empowered by sec. 19 to make Regulations; pursuant to this section Regulations were approved on June 25, 1927, Sept. 26, 1927, Jan. 16, 1928, Dec. 21, 1928, and May 13, 1930.

The first province to enter into an agreement with the Dominion Government under the Old Age Pensions Act was British Columbia, where the payment of pensions began on Sept. 1, 1927. The province of Saskatchewan put the old age pension system into effect on May 1, 1928, and Manitoba adopted the plan on Sept. 1, 1928. In Alberta pensions were paid from Aug. 1, 1929, and in Ontario from Nov. 1, 1929. An Ordinance passed by the Yukon Territorial Council on June 7, 1927, empowered the Gold Commissioner to enter into an agreement with the Dominion Government for the purpose of putting into effect in the territory, or otherwise obtaining the benefit of, the Act respecting Old Age Pensions. By Order of the Governor in Council, old age pensions were paid in the Northwest Territories from Jan. 25, 1929. The New Brunswick Legislature passed enabling old age pension legislation during its 1930 session, to become effective on proclamation by the Lieutenant-Governor in Council.

Table **22** is a financial summary showing the cost of old age pensions in Canada as at Dec. 31, 1930, while Table **23** gives the countries of birth of the old age pensioners at that date, Canada and England leading. Table **24** is a statistical summary of old age pensions down to the end of 1930.

22.—Financial Summary of Old Age Pensions in Canada, by Provinces, as at Dec. 31, 1930.

Item.	Alberta. Act Effective Aug. 1, 1929.	British Columbia. Act Effective Sept. 1, 1927.	Manitoba. Act Effective Sept. 1, 1928.	Ontario. Act Effective Nov. 1, 1929.	Saskatchewan. Act Effective May 1, 1928.	North West Territories. Order in Council Effective Jan. 25, 1929.	Total.
Total numbers of pensioners as at Dec. 31, 1930	3,019	5,337	5.737	35,809	5,508	6	55,416
Average monthly pensions	$ 19·43	.19·33	19·07	19·51	19·36	19·86	-
Total amounts of pensions paid during third quarter of fiscal year 1930-31, (period Oct. 1–Dec. 31, 1930)	$ 179,444	315,488	340,927	2,528,146	326,515	452	3,690,972
Dominion Government's shares of expenditures	$ 89,722	157,744	170,463	1,264,073	163,258	452	1,845,712
Total amounts of pensions paid during three quarters of fiscal year 1930–31, (Period April 1–Dec. 31, 1930)	$ 498,417	889,234	995 223	5,489,581	900,801	788	8,774,044
Dominion Government's shares of expenditures	$ 249,209	444,617	497,611	2,744,791	450,400	788	4,387,416
Total amounts of pensions paid since inception of Old Age Pensions Act to Dec. 31, 1930	$ 765,837	2,938,871	2,644,518	7,745,270	2,220,540	1,606	16,316,642
Dominion Government's shares of expenditures	$ 382,919	1,469,435	1,322,259	3,872,635	1,110,270	1,606	8,159,124

23.—Country of Birth of Old Age Pensioners, by Provinces, as at Dec. 31, 1930.

Country of Birth.	Alberta.	British Columbia.	Manitoba.	Ontario.	Saskatchewan.	N.W.T.	Total.
Canada	1,422	2,212	2,685	26,256	2,105	5	34,685
England	499	1,645	798	4,948	702	–	8,592
Scotland	179	609	333	1,337	316	–	2,774
Ireland	91	238	160	1,539	110	–	2,138
United States	293	241	92	656	306	–	1,588
Austria	80	13	345	44	571	–	1,053
Poland	85	8	435	72	291	–	891
Germany	67	53	49	344	133	1	647
Russia	43	3	151	121	282	–	600
Iceland	4	13	379	–	50	–	446
Sweden	75	72	82	46	126	–	401
Norway	81	43	30	20	169	–	343
Hungary	4	2	14	5	126	–	151
France	17	11	58	32	28	–	146
Italy	5	40	6	89	2	–	142
Roumania	14	3	23	18	81	–	139
Newfoundland	5	28	2	97	5	–	137
Wales	8	1	7	50	21	–	87
Belgium	4	12	37	5	14	–	72
Denmark	20	14	10	13	15	–	72
Finland	4	17	2	15	20	–	58
Holland	3	13	11	3	3	–	33
Channel Islands	–	5	2	23	1	–	31
Switzerland	7	3	4	9	3	–	26
British West Indies	1	4	4	12	–	–	21
Australia	2	9	2	7	–	–	20
Czechoslovakia	3	2	4	5	6	–	20
India	–	4	2	9	1	–	16
South Africa	–	4	1	8	–	–	13
Yugoslavia	–	–	–	–	11	–	11
Turkey	–	2	–	6	1	–	9
Syria	–	1	1	4	1	–	7
British East Indies	–	1	–	4	–	–	5
Greece	2	–	–	2	1	–	5
Luxembourg	–	–	1	2	2	–	5
Gibraltar	–	1	–	3	–	–	4
Isle of Man	–	1	–	–	2	–	3
British Guiana	–	–	1	1	–	–	2
Bulgaria	1	–	–	–	1	–	2
Lithuania	–	–	2	–	–	–	2
Malta	–	1	–	1	–	–	2
New Zealand	–	1	–	1	–	–	2
Persia	–	–	–	–	2	–	2
Peru	–	2	–	–	–	–	2
Algeria	–	–	1	–	–	–	1
Arabia	–	–	–	1	–	–	1
Bahamas	–	1	–	–	–	–	1
Chile	–	1	–	–	–	–	1
Hawaiian Islands	–	1	–	–	–	–	1
Japan	–	1	–	–	–	–	1
Labrador	–	–	–	1	–	–	1
Latvia	–	–	1	–	–	–	1
Madeira	–	1	–	–	–	–	1
Samoan Islands	–	–	1	–	–	–	1
Spain	–	–	1	–	–	–	1
Totals	**3,019**	**5,337**	**5,737**	**35,809**	**5,508**	**6**	**55,416**

The percentage of old age pensioners born in Canada to all such pensioners was nearly 62·6, and that of pensioners born in the British Isles 24·5; thus practically 87 p.c. of all old age pensioners were born in Canada and the British Isles. Pensioners born in the United States represented nearly 2·9 p.c. of the total.

24.—Statistical Summary of Old Age Pensions in Canada as at Dec. 31, 1930.

Item.	Alberta.	British Columbia.	Manitoba.	Ontario.	Saskatchewan.	Northwest Territories.	Total.
Total numbers of pensioners..	3,019	5,337	5,737	35,809	5,508	6	55,416
Percentages of pensioners to total population............	·46	·89	·85	1·08	·62	·06	-
Percentages of persons over 70 years of age to total population..................	1·17	1·84	1·68	3·48	1·17	1·17	-
Percentages of pensioners to population over 70 years of age........................	38·96	48·53	50·63	31·00	53·62	5·37	-
Conjugal condition—							
Married—							
Males....................	880	1,250	1,790	8,266	1,805	4	13,995
Females..................	375	627	1,005	4,400	941	-	7,348
Single—							
Males....................	234	788	284	2,418	250	-	3,974
Females..................	52	164	125	2,593	62	-	2,996
Widowed—							
Males....................	601	861	876	5,785	959	1	9,083
Females..................	810	1,378	1,625	12,162	1,447	1	17,423
Living apart—							
Males....................	55	194	22	104	27	-	402
Females..................	12	75	10	81	17	-	195
Totals, males......	1,770	3,093	2,972	16,573	3,041	5	27,454
Totals, females....	1,249	2,244	2,765	19,236	2,467	1	27,962
Classification of British Subjects—							
Birth......................	2,218	4,804	3,960	34,707	3,463	5	49,157
Naturalization.............	752	462	1,739	724	2,009	1	5,687
Marriage...................	49	71	38	378	36	-	572
	3,019	5,337	5,737	35,809	5,508	6	55,416
Numbers of pensioners with previous residence in other provinces during the 20 years immediately preceding the date of commencement of pension—							
Alberta....................	-	455	49	88	111	2	705
British Columbia...........	105	-	79	58	63	1	306
Manitoba...................	99	294	-	113	440	-	946
New Brunswick............	25	60	9	22	26	-	142
Nova Scotia...............	36	87	20	39	32	-	214
Ontario....................	293	342	234	-	575	-	1,444
Prince Edward Island......	11	13	2	-	15	-	41
Quebec.....................	72	63	36	332	73	-	576
Saskatchewan..............	155	340	216	132	-	-	843
Northwest Territories......	-	3	12	-	-	-	15
Yukon Territory............	3	27	-	-	-	-	30
	799	1,684	657	784	1,335	3	5,262

Section 11.—The Co-operative Movement in Canada.

A general article on "The Co-operative Movement in Canada" appeared at pp. 704-720 of the 1925 edition of the Year Book under the three sub-headings of "Consumers' Co-operation", "Co-operative Credit", and "Producers' Co-operation".[1] Because of the pressure upon space, this article is not reprinted here, but a digest of the latest available material on each of these three subdivisions of co-operation is included.

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[1] The article referred to above was prepared for the Year Book by Miss Margaret Mackintosh, M.A., of the Department of Labour, Ottawa.

Subsection 1.—Consumers' Co-operation.

The co-operative store was first introduced into Canada by miners who had had experience of co-operation in Great Britain. The first co-operative store was opened at Stellarton, N.S., in 1861, and continued to do business until 1916. Many similar ventures were afterwards commenced, but a considerable number failed through their neglect to build up adequate reserve funds. In 1909 the Co-operative Union of Canada was formed, with six affiliated societies and 1,595 members; since October, 1909 it has published a monthly, "The Canadian Co-operator", from which the following statistics (Table **25**) showing the growth of consumers' co-operation in the societies affiliated with the Co-operative Union have been taken.[1]

25.—Statistics of Co-operative Societies Affiliated with the Co-operative Union of Canada, 1909-1929.

Note.—No data for the year 1916.

Year.	Societies.	Members.	Share and Loan Capital.	Reserve Funds.	Stock in Trade.	Other Assets.	Sales.	Net Profits.	Purchase Dividends Paid.
	No.	No.	$	$	$	$	$	$	$
1909....	6	1,595	38,460	11,090	53,820	40,882	347,064	-	22,828
1910....	9	2,605	97,965	19,994	123,946	85,572	569,311	36,596	28,235
1911....	12	3,788	143,781	25,070	168,895	102,903	789,292	44,535	47,338
1912....	17	5,000	178,126	31,806	191,122	172,658	1,194,065	88,782	67,256
1913....	17	5,822	166,051	42,498	205,300	183,220	1,424,985	78,399	63,442
1914....	14	5,810	166,307	36,219	181,867	129,022	1,133,081	73,490	63,881
1915....	8	3,239	143,319	21,118	94,672	109,911	657,006	53,270	47,995
1917.....	13	4,673	248,253	27,941	205,899	145,732	1,264,247	91,079	82,287
1918....	12	4,746	301,368	38,257	252,921	169,545	1,488,541	123,363	115,969
1919....	15	6,306	360,834	47,463	370,676	205,222	2,132,726	156,870	138,216
1920....	20	7,427	394,471	40,419	368,090	206,625	1,465,253	165,904	157,424
1921....	14	5,919	374,996	39,001	280,968	243,397	1,990,765	154,713	144,512
1922....	12	6,552	450,996	94,781	251,855	286,223	2,166,196	157,321	138,762
1923....	7	4,646	381,656	97,591	232,294	286,847	2,249,380	172,972	140,991
1924....	14	7,047	516,909	94,856	271,713	445,071	2,675,852	212,493	183,986
1925....	16	7,308	512,808	151,791	351,732	484,042	2,792,872	158,140	118,945
1926.....	20	7,804	616,431	208,449	426,937	660,930	3,358,162	230,535	165,062
1927....	24	8,914	673,827	228,504	554,101	778,508	4,481,574	283,777	227,733
1928....	33	74,836	3,905,813	2,523,646	1,103,323	13,305,918	8,147,967	1,057,581	252,976
1929....	41	10,648[2]	769,755	484,864	663,476	1,006,628	5,030,560	238,302	238,302

[2] The decrease in membership is accounted for by the dropping of the United Farmers of Canada, Saskatchewan Section, Ltd., and the United Grain Growers, Ltd., the withdrawal of the latter society being also responsible for the decreases in the figures shown in the remaining columns.

The progress shown by the returns from the societies affiliated with the Co-operative Union does not represent the whole growth of the consumers' co-operative movement in Canada. Although the societies affiliated with the Co-operative Union are among the oldest and best established, there is a larger number of consumers' co-operative societies outside the Union than within it, the great majority of these being in the western provinces. In 1926, the Manitoba Co-operative League was organized to link up the co-operative societies in that province, and a similar organization was formed in Alberta in 1923. In Saskatchewan a conference of representatives of co-operative societies has been held annually since 1923.

The following table shows the number of co-operative societies in the Dominion, provincially arranged by groups, together with their respective memberships:—

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[1] For details regarding the Co-operative Union of Canada and its activities, see the 1925 Year Book, pp. 708-9.

26.—Number and Membership of Co-operative Associations in Canada, by Provinces and Groups, 1930.

NOTE.—The figures for the Co-operative Union of Canada which has 41 affiliated societies and a total membership of 10,648 have been included in the respective groups to which they belong.

Province.	Productive.	Marketing.	Productive and Marketing.	Distributive.	Marketing and Distributive.	Credit and Savings.	Miscellaneous.	Total.
				NUMBER OF ASSOCIATIONS.				
Prince Edward Island	–	2	–	–	–	–	–	2
Nova Scotia	1	36	1	9	4	–	–	53
New Brunswick	2	3	1	17	–	–	4	27
Quebec	23	99	10	3	3	5	9	152
Ontario	3	55	9	38	24	2	9	140
Manitoba	1	62	1	58	–	–	5	127
Saskatchewan	7	19	2	128	1	–	183	340
Alberta	7	35	1	44	4	4	15	110
British Columbia	29	34	10	28	9	–	33	143
Totals	**73**	**345**	**35**	**325**	**45**	**11**	**260**	**1,094**
				REPORTED MEMBERSHIP.				
Prince Edward Island	–	4,600	–	–	–	–	–	4,600
Nova Scotia	38	2,210	86	5,678	360	–	50	8,422
New Brunswick	73	2,312	26	665	–	–	1,140	4,216
Quebec	13,731	82,234	605	165	195	41,000	1,027	138,957
Ontario	114	14,802	2,089	3,945	22,910	1,318	761	45,939
Manitoba	30	204,612	29	2,975	–	–	166	207,812
Saskatchewan	37,115	102,979	376	6,644	52	–	9,893	157,059
Alberta	3,268	84,523	1,800	3,546	2,229	145	6,571	102,082
British Columbia	3,133	8,650	2,339	2,537	970	–	3,969	21,598
Totals	**57,502**	**506,922**	**7,350**	**26,155**	**26,716**	**42,463**	**23,577**	**690,685**

Subsection 2.—Co-operative Credit in Quebec.

A form of co-operation which has achieved great success is that which provides short-term credit for small farmers and industrial workers in the province of Quebec. In 1900, what are known as "Les Caisses Populaires", or People's Banks, were begun with the establishment, by the late Alphonse Desjardins, of La Caisse Populaire at Lévis. M. Desjardins adopted the principles of lending money only for approved purposes to carefully selected members in a restricted area, of limited liability, of withdrawable shares of small amount payable by instalments, and of distribution of profits. These banks are for the most part established in agricultural districts. Loans are made to purchase agricultural implements at cash prices, to increase farm live stock, to improve farm buildings, to tide over a period of depression, to get out of a merchant's debt and for various other similar purposes. The loans, though comprised within the term "short credit", are for longer periods than are usual in ordinary commercial transactions because agricultural operations necessarily extend over longer periods than those of trade. They may be for 12, 15, or even 24 months, because they must give time for the farmer to realize on his products.

At present these banks are organized under the Quebec Syndicates Act, 1906. The value of the shares is generally $5, which may be paid in instalments. The liability of the shareholders is limited to the value of their shares, which generally does not exceed $2,000 per shareholder. Shareholders and borrowers must reside within the area of the bank's field of operations, except that under the by-laws shareholders who remove from the locality may continue their holdings in the bank, but without participation in the management by holding office. Larger loans are made upon mortgage and the smaller ones upon notes, but a portion of the loan capital and interest must be repaid at fixed periods in such a way as to extinguish the debt within a determinate time. Each bank is administered by a board of from five to nine members. A credit committee of at least three members passes on the loans requested by shareholders, and a board of supervision of three members checks loans and value of securities and audits the accounts. The members of these boards give their services gratuitously.

The following table (Table **27**) exhibits the progress of the banks during the fifteen years 1915 to 1929. The table is compiled from statistics included in successive volumes of the Quebec Year Book.

27.—Progress of Co-operative People's Banks in Quebec, 1915-1929.

Year.	Banks Reporting.	Members.	Depositors.	Borrowers.	Loans Granted.	Value of Loans Granted.	Profits Realized.
	No.	No.	No.	No.	No.	$	$
1915	91	23,614	13,696	6,728	8,983	1,483,160	89,893
1916	94	25,028	15,613	6,696	11,201	1,641,258	100,945
1917	93	25,669	18,977	7,458	12,741	2,306,172	148,591
1918	98	27,593	20,672	8,056	14,293	2,623,096	180,039
1919	100	29,795	23,451	9,148	14,386	3,667,004	238,375
1920	113	31,752	26,238	9,213	15,390	4,341,544	311,323
1921	100	31,029	30,570	9,219	14,983	1,248,725	352,940
1922	108	33,166	30,583	8,999	13,367	2,891,092	334,396
1923	111	32,173	29,771	8,373	12,273	3,429,444	354,804
1924	119	31,250	30,874	8,414	11,017	3,763,852	398,976
1925	122	33,279	33,527	9,384	13,682	3,909,790	449,531
1926	154	36,298	37,343	10,418	15,843	4,496,956	468,034
1927	159	41,335	40,753	11,754	16,832	4,778,761	537,294
1928	168	41,374	40,568	11,885	17,403	5,047,769	571,664
1929	178	44,835	44,685	13,553	17,994	4,249,650	645,616

From the table it will be seen that good progress has been made during the fifteen-year period. The number of banks reporting increased from 91 in 1915 to 178 in 1929, the membership from 23,614 to 44,835, the number of depositors from 13,696 to 44,685, borrowers from 6,728 to 13,553, the number of loans granted from 8,983 to 17,994, their amount from $1,483,160 to $4,249,650, and the profits realized from $89,893 to $645,616.

Subsection 3.—Producers' Co-operation.[1]

The chief co-operative organizations of producers in Canada, as was clearly shown in the article on co-operation published in the 1925 issue of the Year Book, are still engaged in agricultural operations, including the grain growers of the prairies, the dairy farmers of Ontario and Quebec, and the fruit and vegetable growers of Nova Scotia, Ontario and British Columbia. The largest co-operative organizations in Canada are found among the grain growers of the Prairie Provinces.

The Wheat Pools.—A continued normal growth in membership, with a consequent increase in acreage under contract, marked the progress of the prairie wheat pools during the past year. Due chiefly to a policy of stringent economy which was made necessary by the difficult wheat marketing situation, no expansion of country elevator facilities was undertaken; but the complete line of 1,636 houses already erected was operated successfully throughout the past season.

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[1] See also pp. 712-20 of the 1925 Year Book, and pp. 711-13 of the 1926 Year Book.

The Alberta Wheat Pool increased the storage capacity of its No. 1 terminal at Vancouver to the extent of 2,750,000 bushels, and also acquired, by lease, a 1,000,000 bushel terminal at Victoria, B.C. The combined storage space in Pool, country and terminal elevators now totals 95,976,250 bushels.

The central selling agency, or Canadian Wheat Pool, in common with all other wheat marketing organizations, was faced with an exceptionally difficult year and its turn-over and exports showed a heavy decline from the previous year. Total wheat sales for the 1929-30 season were 129,952,000 bushels, of which 56,877,613 bushels went into export channels. Unstable monetary and political conditions in China affected Canadian wheat exports unfavourably and the Pool's shipments to the Orient totalled only 4,000,000 bushels, compared with nearly 18 million in the preceding season. The United Kingdom was again the co-operative's largest customer, taking approximately 23,000,000 bushels, as compared with 34,600,000 bushels in 1928-29. Total Pool handlings amounted to 139,570,304 bushels, of which 24,040,981 bushels were coarse grains.

The Pool year was featured by difficulties of financing (involving legislative guarantees of bank loans by the Governments of the Prairie Provinces); changes in sales policy; a growing demand among members for a 100 p.c. Pool by legislative enactment; and continued expansion of cereal research activities.

The following table (Table **28**) gives a statistical view of the expansion of the wheat pools during the past six years:—

28.—Pool Membership, Acreage and Bushels Handled by the Wheat Pools of the Prairie Provinces, 1923-1931.

Crop Year and Province.	Pool Membership.	Pool Acreage.	Pool Handling.
	No.	acres.	bush.
1923-24—			
Alberta Wheat Pool only	25,601	2,416,413	34,218,980
1924-25—			
Alberta Wheat Pool	30,711	2,952,890	23,026,393
Saskatchewan Wheat Pool	51,268	7,055,590	50,201,536
Manitoba Wheat Pool	9,216	735,866	7,932,065
Totals	91,195	10,744,346	81,159,994
1925-26—			
Alberta Wheat Pool	35,997	3,457,673	45,166,599
Saskatchewan Wheat Pool	72,016	9,564,299	129,708,049
Manitoba Wheat Pool	14,372	1,058,182	12,487,858
Totals	122,385	14,080,154	187,362,506
1926-27—			
Alberta Wheat Pool	38,460	3,650,703	44,251,334
Saskatchewan Wheat Pool	80,418	10,664,948	119,502,566
Manitoba Wheat Pool	17,334	1,215,047	16,196,342
Totals	136,212	15,530,698	179,950,242
1927-28—			
Alberta Wheat Pool	43,863	4,072,545	71,117,500
Saskatchewan Wheat Pool	86,125	11,216,186	127,559,494
Manitoba Wheat Pool	19,582	1,346,414	11,194,397
Totals	149,570	16,635,145	209,871,391
1928-29—			
Alberta Wheat Pool	36,541	4,167,456	18,379,667
Saskatchewan Wheat Pool	77,404	10,735,448	158,424,177
Manitoba Wheat Pool	17,783	1,250,000	67,444,356
Totals	131,728	16,152,904	244,248,200
1929-30—			
Alberta Wheat Pool	40,915	4,625,309	37,541,032
Saskatchewan Wheat Pool	81,592	10,957,970	84,665,959
Manitoba Wheat Pool	17,968	1,283,396	17,363,313
Totals	140,475	16,866,675	139,570,304
1930-31 (As at Jan. 1, 1931)—			
Alberta Wheat Pool	43,293	5,165,547	-
Saskatchewan Wheat Pool	82,979	12,411,572	-
Manitoba Wheat Pool	21,758	3,257,288	-
Totals	148,030	20,834,407	-

Section 12.—Labour Legislation in Canada.

A general summary of Dominion and provincial labour laws to the end of 1928 will be found at pp. 755-762 of the 1929 Year Book, together with a short note on the division of legislative jurisdiction as between the Dominion and the provinces. A summary of 1929 legislation was published in the 1930 Year Book at pp. 746-748.

Legislation affecting labour enacted by the Parliament of Canada and the legislatures of the several provinces during 1930 has been published in the Report on Labour Legislation in Canada 1930, issued by the Dominion Department of Labour. The more important changes are noted below.

Dominion Labour Legislation.—The Fair Wages and Eight Hour Day Act provides for the payment of current or fair and reasonable rates of wages, and for the eight-hour day for employees on Dominion public works. Exceptions in regard to hours may be made in special cases.

P.C. 670, dated Mar. 27, 1930, provides that except where the work is intermittent in character or the application of the rule is not deemed to be in the public interest, the hours of work of employees of the Dominion Government who have heretofore been required to work more than eight hours per day shall be reduced to eight, with a half holiday on Saturdays.

The Unemployment Relief Act (see p. 778) was passed at the Special Session of Parliament called to deal with unemployment. This Act appropriated the sum of $20,000,000 to be expended in public works undertaken by the Dominion Government to relieve unemployment, in assisting the provinces with similar works, and in reimbursing the provinces and municipalities for expenditure in connection with unemployment.

Provincial Labour Legislation.—In Alberta the Mines Act was repealed and a new statute for the regulation of coal mines was enacted. No boy under 16 years of age may be employed in or about a mine. Formerly boys between 14 and 16 years might work above ground on certificates as to education. Operators of hoisting machinery must be at least 21 years of age and have certificates of mental and physical fitness from a competent medical practitioner, which must be renewed every six months. Among the new provisions is one authorizing agreements between employers and workmen for the payment of wages oftener than twice a month. New regulations were made as to mine equipment and numerous general rules were added.

In the revision of the Manitoba Mines Act the powers of the inspector in ordering the remedying of dangerous conditions were widened and more detailed statistical returns as to wages, etc., required.

Part VIII of the Ontario Mining Act dealing with the operation of mines was re-enacted with a number of changes. These included provision for the maintenance of mine rescue stations and for an eight-hour day for operators of hoisting engines.

The Saskatchewan One Day's Rest in Seven Act provides for a rest period of at least twenty-four consecutive hours in every seven days (on Sunday if possible) for industrial workers including municipal employees. Certain exceptions are made which are specified in the Act. The law applies only in cities, but it may be extended to other parts of the province by the Lieutenant-Governor in Council, who may also withdraw industries from its scope.

The Industrial Establishments Act of Quebec was amended to reduce the maximum normal working hours of women and girls and of boys under 18 years of age from 60 hours to 55 hours per week.

In Quebec workshops forming part of commercial establishments were brought within the scope of the Women's Minimum Wage Act and the Minimum Wage Commission was given power to fix the number of hours per week for which the minimum wage is payable, and to fix overtime rates. The Minimum Wage Act of Alberta was made applicable to the whole province.

A law providing for a minimum wage for women was enacted in New Brunswick and will come into effect on proclamation. This Act applies to all female employees who work for wages except farm labourers and domestic servants. The board of five members has power to fix minimum wages, and the number of hours per week for which such wages shall be paid, as well as overtime rates, and special rates for handicapped workers and apprentices.

A new Mechanics' Lien Act in Alberta is broader in scope and simpler in language than its predecessor.

Laws providing for mothers' allowances were enacted in Nova Scotia and New Brunswick. The New Brunswick Act comes into force on proclamation. Both Acts provide for the payment of an allowance, not exceeding $60 per month, to a mother who is a widow with two or more legitimate children under 16 years of age and who is eligible under the conditions as to character, income and residence in the province. The mother of one child under 16 is eligible if she is herself an invalid or if she has an invalid child over 16 years of age residing with her.

The Child Welfare Act of Manitoba was amended to provide for the payment of an allowance in respect of any child within the prescribed age who is born in Canada whether or not the father of such child is a British subject by birth or naturalization. An amendment to the Saskatchewan Child Welfare Act provides for the granting of an allowance to a mother whose husband has not been heard of for seven years.

A clause added to the Children's Protection Act of Nova Scotia empowers the councils of cities and incorporated towns to pass by-laws regulating and controlling children under 16 years of age engaged as express or dispatch messengers and as vendors of newspapers and smallwares. Such by-laws must be approved by the Lieutenant-Governor in Council before having the force of the law.

Under the Ontario School Attendance law power to grant certificates relieving children from school attendance during employment is now given only to school attendance officers. The Vocational Education Act of Ontario was re-enacted with a number of changes, including the provision for instruction of children who reside in districts where the desired courses are not provided and the withdrawal of the optional system of administration, the single vocational committee method alone being retained.

An amendment to the Ontario Apprenticeship Act provides that the Ontario Minister of Public Welfare may require employers in any designated trade to contribute to the cost of maintaining the system of apprenticeship and administering the Act.

The Manitoba Workmen's Compensation Act was amended to carry out the recommendations of a special committee appointed in 1929. Compensation payable to a widow is raised from $30 to $40 per month. Monthly payments to a widow or invalid widower with or without children are limited to 66⅔ p.c. of the average earnings of the workman, subject to a minimum of $12.50 per week in the case of a widow or invalid widower with one child and $15 per week if the children number two or more. New provisions were enacted dealing with accidents outside the province, including one covering cases in which the workman regularly spends some of his time outside of Manitoba. The section which denied compensation to dependants resident in countries which were enemy countries during the Great War was repealed as from May 17, 1929. The waiting period is now three consecutive days. To the schedule of industrial diseases were added conjunctivitis and retinitis due to electro and oxy-acetylene welding, and occupational dermatitis and ulcerations and infections of the skin due to certain specified employments.

The Unemployment Relief Act of Alberta authorizes the payment from the General Revenue Fund of a sum not exceeding $100,000 for the purpose of supplying relief to the unemployed of the province.

The Electrical Energy Act of Alberta provides for regulations governing, among other things, the inspection of plants and equipment, the safety of workers, and the licensing of electricians. The Steam Boilers Act of Saskatchewan was the subject of a number of amendments relating to qualifications for certificates.

Section 13.—Legislation Respecting Combinations in Restraint of Trade.

In the 1927-28 edition of the Canada Year Book at pp. 765-770 a general article on Canadian legislation concerning trade combinations and monopolies against the public interest will be found under the heading "Legislation Respecting Combinations in Restraint of Trade". In addition to an outline of the Combines Investigation Act, and a review of the principal cases dealt with under the Act up to Mar. 31, 1927, the article includes a brief statement of the provisions against combines as contained in the Criminal Code,[1] the Customs Tariff,[2] the Excise Act,[3] and the Patent Act.[4] A further section of the article summarizes former Canadian legislation for the investigation of combines, including the Combines Investigation Act of 1910 and the Combines and Fair Prices Act of 1919.

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[1] R.S., 1927, c. 146, ss. 496-498. [2] R.S., 1927, c. 44, s. 15. [3] R.S., 1927, c 60, s. 27. [4] R.S. 1927, c. 150, s. 40.

The Combines Investigation Act.—The Combines Investigation Act (R.S.C. 1927, c. 26) is designed, as its full title indicates "to provide for the investigation of combines, monopolies, trusts and mergers", and declares to be unlawful only such combines as "have operated or are likely to operate to the detriment or against the interest of the public, whether consumers, producers or others". The statute provides that a preliminary inquiry shall be made by the Registrar on receipt of an application signed by any six British subjects resident in Canada, or if the Registrar has reason to believe that a combine exists, or if the Minister of Labour so directs. If the preliminary inquiry discloses sufficient evidence to justify further investigation, this may be conducted by the Registrar or by a special Commissioner appointed by the Governor in Council. Full authority is given the Registrar and the Commissioner to examine witnesses on oath and compel the production of records and documents.

The remedies provided by the Act are those of publicity and penalty. The proceedings are conducted in private, unless otherwise ordered by the Minister, but the report of any Commissioner is required to be published within fifteen days of its receipt by the Minister. Any person who is a party or privy to, or knowingly assists in the formation or operation of, a combine is guilty of an indictable offence and liable to a penalty not exceeding $10,000 or to two years' imprisonment; or, if a corporation, to a fine not exceeding $25,000. Provision is also made in the Act for the reduction or removal of the customs duty on any article of commerce, among the manufacturers or dealers in which there exists a combine, the operation of which is facilitated by the tariff. Similarly, the Exchequer Court may revoke a patent if there is evidence to show that the holder of such patent has made use of his exclusive rights to limit production or competition unduly, to enhance prices unreasonably, or to restrain or injure trade.

The constitutional validity of the Combines Investigation Act was given final confirmation by the Judicial Committee of the Privy Council in a decision delivered in January, 1931. This judgment confirmed the unanimous decision of the Supreme Court of Canada, given in April, 1929, after a reference for determination of this question had been made to the courts by the Dominion Government. Both courts also upheld the constitutional validity of section 498 of the Criminal Code, relating to combinations in restraint of trade.

An investigation into the Amalgamated Builders' Council and related organizations, a combine of plumbing and heating contractors and others in the provnce of Ontario, was completed in December, 1929. Prosecutions on charges of violations of the Combines Investigation Act and section 498 of the Criminal Code were commenced by the Dominion Government against about fifty persons and corporations in Windsor, London and Toronto who were connected with the alleged combine. In May and June, 1929, thirteen of these persons and one company pleaded guilty to charges under the Combines Investigation Act and were fined a total of $26,500, the largest fine being $10,000 and the smallest $500. Pleas of guilty to offences under section 444 of the Criminal Code were also entered at the city of London. Sentence was suspended on this charge, relating to conspiracy to defraud. Other prosecution proceedings in cases following this investigation were delayed by the courts and were resumed after the pronouncement of the Privy Council on the constitutional validity of the Combines Investigation Act.

An organization of electrical contractors in the city of Toronto, known as the Electrical Estimators Association, was investigated under the Combines Investigation Act in 1930. The report of the Commissioner conducting the investigation was completed in October, 1930. It stated that members of this Association had been guilty of participating in a combine contrary to the provisions of the Combines Investigation Act and that they had also committed similar offences in violation of section 498 of the Criminal Code. The principal method used by the members of this association was to discuss tenders before submitting them. Each contractor submitted to the secretary of the association an estimate of his costs of material and labour on a particular job; these costs were averaged and the contractor whose costs were nearest to the average was declared to be entitled to the job. He added an agreed-upon percentage, and informed the other members of his tender price. The other contractors then saw to it that none of their tenders was submitted to the architect or owner below that price. ,

Investigations into alleged combines in the motion picture industry and the bread-baking industry were among the other principal cases dealt with under the Act. An investigation into an alleged combine in the motion picture industry was commenced by a Commission in October, 1930, and was not completed at the end of the year. The annual report of the Registrar of the Combines Investigation Act contains reference to other investigations in progress during 1929 and 1930.

PART II.—WAGES AND COST OF LIVING.

Section 1.—Wage Rates.[1]

Statistics of rates of wages and hours of labour have been collected for recent years by the Dominion Department of Labour, and are published in a series of bulletins supplementary to the *Labour Gazette*. Report No. 1 of this series was issued in March, 1921. The records upon which the statistics are based begin in most cases with the year 1901. Index numbers have been calculated to show the general movement of wage rates; the series covers 21 classes of labour back to 1901, 4 classes of coal miners back to 1900, and common factory labour, miscellaneous factory trades and lumbering back to 1911. The index numbers are based upon wage rates in 1913 as 100.

The accompanying table of index numbers (Table 1) shows the relative changes from year to year. A downward movement appeared in most of the groups in 1921 and 1922, after the peak had been reached in 1920. The index numbers for 1923 and 1924 showed on the whole a slightly upward trend, but while there were slight increases during 1925 in some groups, a substantial decline in coal miners' wages reduced the average. In 1926 slight increases took place in the wages paid by the building, metal and printing trades, electric railways and steam railways. In 1927 general increases took place in all the six groups included in the average, as well as in the other three groups; wage increases in the building trades and on the steam railways were the outstanding features of the year. In 1928, except steam railways which was stationary, and common factory labour which declined fractionally, all groups showed an upward movement, a substantial increase appearing in building trades. In 1929 all groups except coal-mining were higher, the building trades showing the greatest increase. In 1930 building trades showed a substantial increase, lumbering a decrease, and other groups fractional increases.

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[1] See pp. 774–783 of the 1927-28 Year Book for an article on the "Wages Statistics of the census of 1921".

Rates of wages and hours of labour in 1929 in various trades in the largest cities of the five economic areas of Canada will be found in Table **2.** Samples of wages and hours of labour for common labour in various cities of Canada are given for various years since 1920 in Table **3.** The attention of those specially interested in the subject of wages and hours is directed to the valuable detailed study, "Wages and Hours of Labour in Canada, 1920 to 1930", published by the Department of Labour as a supplement to the *Labour Gazette,* January, 1931.

1.—Index Numbers of Rates of Wages for Various Classes of Labour in Canada, 1901-1930.

(Rates of Wages in 1913=100.)

Year.	Average.[1]	Building Trades.	Metal Trades.	Printing Trades.	Electric Railways.	Steam Railways.	Coal Mining.	Common Factory Labour.	Miscellaneous Factory Trades.	Logging and Saw-milling.
1901	67·4	60·3	68·6	60·0	64·0	68·8	82·8	–	–	–
1902	70·0	64·2	70·2	61·6	68·0	72·0	83·8	–	–	–
1903	72·5	67·4	73·3	62·6	71·1	75·1	85·3	–	–	–
1904	74·5	69·7	75·9	66·1	73·1	76·9	85·1	–	–	–
1905	75·7	73·0	78·6	68·5	73·5	74·5	86·3	–	–	–
1906	78·6	76·9	79·8	72·2	75·7	79·3	87·4	–	–	–
1907	82·8	80·2	82·4	78·4	81·4	81·0	93·6	–	–	–
1908	84·9	81·5	84·7	80·5	81·8	86·1	94·8	–	–	–
1909	85·9	83·1	86·2	83·4	81·1	86·3	95·1	–	–	–
1910	88·9	86·9	88·8	87·8	85·7	90·1	94·2	–	–	–
1911	92·3	90·2	91·0	91·6	88·1	95·7	97·5	94·9	95·4	93·3
1912	96·0	96·0	95·3	96·0	92·3	97·9	98·3	98·1	97·1	98·8
1913	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**
1914	101·3	100·8	100·5	102·4	101·0	101·4	101·9	101·0	103·2	94·7
1915	101·4	101·5	101·5	103·6	97·8	101·7	102·3	101·0	106·2	89·1
1916	105·8	102·4	106·9	105·8	102·2	105·9	111·7	110·4	115·1	109·5
1917	119·9	109·9	128·0	111·3	114·6	124·6	130·8	129·2	128·0	130·2
1918	143·6	125·9	155·2	123·7	142·9	158·0	157·8	152·3	146·8	150·5
1919	165·3	148·2	180·1	145·9	163·3	183·9	170·5	180·2	180·2	169·8
1920	197·8	180·9	209·4	184·0	194·2	221·0	197·7	215·3	216·8	202·7
1921	191·2	170·5	186·8	193·3	192·1	195·9	208·3	190·6	202·0	152·6
1922	182·4	162·5	173·7	192·3	184·4	184·4	197·8	183·0	189·1	158·7
1923	183·3	166·4	174·0	188·9	186·2	186·4	197·8	181·7	196·1	170·4
1924	183·7	169·7	175·5	191·9	186·4	186·4	192·4	183·2	197·6	183·1
1925	179·7	170·4	175·4	192·8	187·8	186·4	167·6	186·3	195·5	178·7
1926	180·5	172·1	177·4	193·3	188·4	186·4	167·4	187·3	196·7	180·8
1927	184·3	179·3	178·1	195·0	189·9	198·4	167·9	187·7	199·4	182·8
1928	187·6	185·6	180·1	198·3	194·1	198·4	168·9	187·1	200·9	184·3
1929	192·7	197·5	184·6	202·3	198·6	204·3	168·9	187·8	202·1	185·6
1930	194·4	203·2	186·6	203·3	199·4	204·3	169·4	188·2	202·3	183·9

[1] Simple average of the six succeeding columns.

2.—Rates of Wages and Hours of Labour in Various Trades,[1] in Certain Cities of Canada, 1930.

NOTE.—Corresponding figures for 1920-26 will be found at pp. 720-1 of the 1926 Year Book and for 1927 at p. 773 of the 1927-28 Year Book.

Occupation.	Halifax.		Montreal.		Toronto.		Winnipeg.		Vancouver .	
	Wages per hour.	Hours per week.	Wages per hour.	Hours per week.	Wages per hour.	Hours per week.	Wages per hour.	Hours per week.	Wages per hour.	Hours per week.
1. Building Trades—	$		$		$		$		$	
Bricklayers....	1·15-1·25	44	1·20	44	1·35	44	1·45	44	1·35	40
Carpenters.....	·73	44	·85	44-55	1·10	44	1·10	44	1·00	44
Electrical workers......	·90	44	·75-·90	44-46½	1·25	44	1·10	44	1·17½	44
Painters........	·73	44	·65-·85	44-49½	·85-·90	44	·95	44	·90	44
Plasterers......	1·00	44	1·05	44-49½	1·37½	40	1·45	44	1·35	40
Plumbers......	·90	44	·90	44	1·25	40-44	1·25	44	1·25	40
Sheet metal workers......	·90	44	·80	44 .	1·15	44	·90	44	1·12½	44
Stonecutters....	·90	44	·75-1·00	44	1·25	44	1·25	44	1·25	40
Labourers......	·35-·45	44-54	·35-·45	44-60	·40-·65	44-60	·42½-·50	44-60	·50-·62½	44
2. Metal Trades—										
Blacksmiths...	·65-·70	44-50	·60-·70	44-58	·60-·65	44-50	·60-·77	40-50	·75-·87½	44
Boilermakers..	·60-·65	44-50	·50-·85	47-58	·60-·75	44-48	·60-·74	44-50	·75-·85	44
Machinists.....	·60-·70	44-50	·50-·80	44-58	·60-·70	44-54	·60-·74	40-50	·75-·85	44
Iron moulders..	·70	48	·65-·82½	44-49	·60-·70	45-54	·60-·75	44-50	·75-·81¼	44
3. Electric Railways—										
Conductors and motormen[2]...	·58	60	·55	70	·60	48	·60	48	·63	48
Linemen.......	·60-·74	44	·55	60	·72-·78	44	·92½	44	·97	44
Shedmen.......	·50-·63	44	·34-·57	63-70	·54-·56	44	·51½-·59	44	·52	44-48
Electricians....	·60-·74	44	·55-·61	50	·55-·65	44	·61	44	·70	44
Trackmen and labourers.....	·40-·47	44	·39	54	·45-·59	48	·35-·42	44	·50-·59	44
4. Printing Trades—	Wages per week.		Wages per week.		Wages per week.		Wages per week.		Wages per week.	
Compositors, machine and hand, news...	35·00	48	38.00-44.00	48	47·50	46½	47·00	46	48·00	45
Compositors, machine and hand, job....	30·00	44	36.00-42.00	44-48	35.00-42.00	44-48	39·60	44-48	45·00	44-48
Pressmen, news	32·00	48	40·00	48	46·50	48	45·00	48	48·00	48
Pressmen, job.	32·00	44-48	36·00	48	36.00-42.00	44-48	39·60	44-48	45·00	44-48
Bookbinders...	30.00-40.00	44-48	33·75	48	36.00-40.00	44-48	35.20-42.00	44-48	45·00	44-48
Bindery girls...	10·00	44-48	15·00	48	16.80-18.00	48	12.00-18.00	44-48	23·00	44-48

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[1] For statistics of the wages and hours of employees of steam railways and wages of employees in and about coal mines in Canada, see pp 751-2 of the 1930 Year Book where the rates, etc., for the past seven or eight years, to 1929, are given. No changes for 1930 are reported, except as follows:—In the case of coal-mine rates in Nova Scotia, wages of Contract Miners are increased to $6.69, Hoisting Engineers to $4.25, Bratticemen to $3.73, Pumpmen to $3.93, Labourers (underground) to $3.45, Labourers (surface) to $3.40, Carpenters to $3.88 and Blacksmiths to $4.05. Contract Miners rates have been reduced to $7.78 in Alberta and to $6.71 on Vancouver Island.

[2] Final maximum rate after annual increase.

3.—Samples of Wages and Hours of Labour for Common Labour in Factories in Canadian Cities, 1921, 1925, 1927, 1928, 1929 and 1930.

Locality.	Unit.	1921.		1925.		1927.		1928.		1929.		1930.	
		Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.
Nova Scotia—		$		$		$		$		$		$	
Halifax............	Hour	·37	60	·34	48	·32	50	·32	50	·32	50	·32	50
Halifax............	Hour	·40	50	·35	50	·35	50	·35	50	·35	50	·35	50
Halifax............	Hour	·37½	50	·30	50	·30	50	·30	50	·33	50	·33	50
Halifax............	Hour	·30	50	·28	55	·30	50	·30	50	·35	50	·35	55
New Glasgow......	Hour	·30	55	·27½	50	·27½	50	·27½	50	·27½	50	·27½	50
Pictou............	Week	15·00	59	15·00	59	15·00	59	15·00	59	15·00	59	15·00	59
Truro.............	Hour	·30	54	·30	54	·30	54	·30	54	·30	54	·30	54

3.—Samples of Wages and Hours of Labour for Common Labour in Factories in Canadian Cities, 1921, 1925, 1927, 1928, 1929 and 1930—concluded.

Locality.	Unit.	1921.		1925.		1927.		1928.		1929.		1930.	
		Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.	Wages.	Hrs per wk.
		$		$		$		$		$		$	
New Brunswick—													
Saint John..........	Hour	·33	54	·36	48	·36	54	·36	54	·36	54	·36	48
Saint John..........	Hour	·25	60	·28	45	·28	45	·28	45	·30	45	·30	45
St. Stephen........	Week	18·00	50	15·00	50	15·00	50	15·00	50	15·00	50	15·00	50
Quebec—													
Beauharnois........	Hour	·30	55	·25	55	·25	55	·25	55	·25	55	·30	55
Fraserville.........	Hour	·25	60	·20	60	·25	60	·25	60	·20	60	·20	60
Hull...............	Hour	·30	50	·35	50	·35	50	·35	50	·35	50	·30	50
Montreal...........	Hour	·36	50	·35	50	·35	50	·35	50	·35	50	·35	50
Montreal...........	Hour	·40	50	·35	50	·35	60	·35	50	·35	50	·35	55
Montreal...........	Hour	·33	53½	·31	55	·33½	55	·32½	55	·34½	55	·33	50
Quebec.............	Week	12·00	55	13·95	55	14·50	55	13·60	55	14·62	55	18·23	55
St. John's..........	Hour	·32½	60	·32½	55	·32½	55	·32½	55	·32½	55	·32½	50
Ontario—													
Brantford..........	Hour	·40	50	·37½	50	·37½	50	·37½	55	·40	50	·40	50
Brantford..........	Week	16·25	50	23·60	59	19·75	50	19·75	50	20·00	50	20·00	50
Chatham..........	Hour	·35	55	·35	55	·35	55	·35	55	·35	55	·35	55
Chatham..........	Hour	·41	50	·35	50	·35	50	·35	50	·35	50	·35	50
Hamilton..........	Hour	·40	52½	·40	50	·40	50	·40	50	·40	50	·40	50
Hamilton..........	Hour	·30	54	·33	54	·38	54	·38	54	·38	54	·38	54
Kingston...........	Week	18·00	54	18·00	54	18·00	54	18·00	54	18·00	54	18·00	54
Kitchener..........	Hour	·40	50	·45	50	·45	50	·35	55	·35	55	·30	55
Kitchener..........	Hour	·41	55	·37	55	·37	55	·36	55	·36	55	·36	50
London............	Hour	·45	49½	·42	49½	·42	49½	·42	49½	·42	49½	·42	49½
Orillia.............	Hour	·30	45	·30	50	·30	50	·30	50	·30	50	·30	50
Orillia.............	Hour	·35	50	·32½	50	·32½	50	·32½	50	·32½	50	·32½	50
Ottawa............	Hour	·40	54	·40	44	·42½	48	·42½	48	·42½	44	·42½	44
Owen Sound........	Hour	·30	60	·30	60	·30	55	·30	55	·30	55	·30	55
Owen Sound........	Hour	·38	54	·27	60	·30	50	·30	50	·33½	50	·33½	50
Paris...............	Hour	·29	55	·27½	50	·30	50	·27½	50	·27½	50	·27½	50
Peterborough......	Hour	·40	50	·35	50	·35	50	·35	50	·35	50	·35	50
Stratford...........	Hour	·37	50	·35	50	·34	50	·34	50	·34	50	·34	50
Stratford...........	Hour	·38	50	·37	50	·38	50	·38	50	·38	50	·38	50
Toronto............	Hour	·34	55	·30	55	·30	55	·30	55	·30	55	·30	55
Toronto............	Hour	·37½	50	·37½	50	·37½	50	·37½	50	·37½	50	·37¼	50
Waterloo...........	Hour	·45	50	·36	50	·36	50	·36	50	·36	50	·36	50
Waterloo...........	Hour	·36	50	·35	50	·43	50	·40	50	·40	50	·43	50
Woodstock.........	Hour	·35	50	·35	55	·40	55	·30	55	·30	55	–	–
Manitoba—													
Brandon...........	Week	25·00	54	18·00	54	18·00	54	19·00	54	21·00	54	20·00	54
Brandon...........	Week	17·00	48	24·00	60	22·50	60	22·50	54	22·50	54	22·50	54
Winnipeg...........	Hour	·35	55	·30	52	·30	56	·35	60	·35	60	·30	60
Winnipeg...........	Hour	·45	50	·40	50	·45	50	·45	50	·45	50	·45	50
Saskatchewan—													
Moose Jaw.........	Hour	·50	60	·35	60	·40	60	·40	60	·40	60	·40	60
Moose Jaw.........	Hour	·45	48	·40	48	·40	48	·40	48	·40	48	·40	48
Regina.............	Hour	·45	50	·37½	50	·37½	55	·37½	55	·40	55	·37½	50
Regina.............	Hour	·50	55	·40	55	·40	55	·40	55	·40	55	·35	55
Saskatoon..........	Hour	·40	60	·35	59	·35	59	·35	59	·35	59	·35	59
Alberta—													
Calgary............	Week	24·00	48	21·60	48	21·60	48	21·60	48	21·60	48	21·60	48
Calgary............	Hour	·45	48	·40	48	·40	48	·40	48	·40	48	·40	48
Edmonton.........	Hour	·45	44	·35	44	·40	44	·40	44	·40	44	·40	44
Edmonton.........	Hour	·35	52	·30	49	·30	49	·30	49½	·30	49½	·30	49½
Lethbridge.........	Hour	·35	60	·37½	60	·37½	54	·40	54	·40	54	·40	54
Medicine Hat......	Hour	·50	59	·45	48	·45	48	·45	48	·45	48	·45	48
Medicine Hat......	Hour	·43	48	·36	54	·36	54	·36	54	·36	54	·36	54
British Columbia—													
New Westminster..	Hour	·40	55	·40	50	·40	49	·40	49	·40	49	·40	49
New Westminster..	Hour	·40	44	·40	44	·40	44	·40	44	·40	44	·40	44
Vancouver.........	Hour	·25	50	·35	48	·40	48	·40	48	·40	48	·40	48
Vancouver.........	Hour	·50	50	·47½	50	·47½	50	·47½	50	·47½	50	·47½	50
Victoria............	Hour	·40	60	·40	48	·40	48	·40	48	·40	48	·40	48
Victoria............	Day	4·05	50	4·05	50	4·05	50	4·05	50	4·05	50	4·05	50

Section 2.—Wages and Hours of Labour Under Minimum Wage Boards in Canada.

Subsection 1.—Minimum Wages for Females.

The accompanying table gives summary figures as to the minimum rates of wages in force during 1930 under the orders of the various boards, hours in some cases being governed by hours legislation. In some provinces these orders include regulations as to employment conditions, terms of employment, sanitary conditions, etc., and all provide for variations under licence from the Boards to permit lower rates of pay for handicapped employees, etc., and to meet special conditions in the nature of emergencies.

In this table the figures for adult learners and for minors and apprentices are shown in a range covering both classes. There is considerable variation in the rates for such classes in the various industries, and the time allowed for instruction varies considerably, from a few weeks to two years and upwards.

4.—Minimum Wages and Maximum Hours of Labour for Female

Industry or Occupation.	Alberta.				British Columbia (k).				Manitoba (a).			
	Wages per Week.		Hours—		Wages per Week.		Hours—		Wages per Week.		Hours—	
	Adults, Experi-enced.	Minors, Learn-ers, etc.	per day	per wk.	Adults, Experi-enced.	Minors, Learn-ers, etc.	per day	per wk.	Adults, Experi-enced.	Minors, Learn-ers, etc.	per day	per wk.
	$	$			$	$			$	$		
Factories	12·50	6·00–10·00	9	48	14·00	7·00–12·00	8	48	11·00–12·00	8·00–11·00	9	48–50
Dressmaking	12·50	(g)6·00–10·00	9	48	14·00	7·00–13·00	8	48	(h)12.00	(g)6·00 11·00	(m) 8½	50
Millinery	12·50	(g)4·00–10·00	9	48	14·00	7·00–13·00	8	48	12·00	(u)5·00–10·00	(m) 8½	50
Tailoring	12·50	(g)6·00–10·00	9	48	14·00	7·00–13·00	8	48	12·00	6·00–11·00	9	50
Fur-sewing	12·50	(g)6·00–10·00	9	48	14·00	7·00–13·00	8	48	(h)12.00	8·00–10·50	9	48
Fruit and vegetable canning, etc	12·50	9·00–10·00	9	48	14·40	11·00	10	48	–	–	–	–
Printing, etc	12·50	7·00–11·00	9	48	14·00	7·00–13·00	8	48	12·00	8·00–11·00	9	48
Laundries, etc	12·50	9·50–11·50	9	48	13·50	8·00–12·00	–	48	(h)12·00	9·00–10·50	9	50
Retail stores	12·50	7·50–11·00	(m) 9	52	12·75	7·50–12·00	–	48	12·00	7·00–11·00	(m) 9	48
Hotels, restaurants, etc.	14·00–16·50	10·00–14·00	9	48–56	14·00	12·00	–	48	12·50	–	10	48
Theatres, amusement places, etc	(p)14·00	–	9	48	(p)14·25	–	–	48	(h)12·00	–	9	48
Personal service, hairdressing, etc	(p)14·00	(g)6·00–12·00	9	48	(p)14·25	10·00–13·00	–	48	12·00	(g)8·00–11·00	(m) 10	48
Offices and clerical work	14·00	(g)7·50–12·00	9	48	15·00	11·00–14·00	–	48	(h)12·50	8·00–11·50	8	44
Telephone and telegraph	14·00	(g)7·50–12·00	9	48	15·00	11·00–13·00	8	48	–	–	–	–
Elevator operators	–	–	–	–	–	–	–	–	–	–	–	–

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*Food factories in Halifax only. †Applicable to certain cities only.

(a) In Manitoba in brickyards and in seasonal and casual employment in industries not otherwise covered a minimum wage of $12 per week or 30 cents per hour is established.

(b) For Ontario the ranges of rates shown for experienced adults cover the various rates set for localities according to population.

(c) Seasonal canneries included under separate order: 18 to 60 years of age, 18 to 25 cents per hour, other ages 15 to 20 cents.

(d) The Factory Act provides for maximum hours for female employees, 10 per day and 60 per week.

(e) Textile and knitting factories: $10-$12 for experienced adults; $6-$10 for minors and learners; boot and shoe and leather trades, $8-$12.50 for experienced adults; $5-$11 for minors and learners; various classes of clothing and tobacco factories: $9.00-$12.50 for experienced adults, $6-$11 for minors and learners; these rates to be paid for 44-55 hours per week in clothing factories and for 50-55 hours in tobacco factories, *pro rata* for additional hours.

(f) The Factory Act provides for maximum hours, for female employees, 10 per day and 55 per week.

(g) Probationary period without minimum rate.

(h) Winnipeg and vicinity only under order.

(j) In mail-order houses and in retail stores in certain cities and towns.

The number of learners and apprentices is usually restricted, for instance to 25 p.c. of the employees.

The hours of labour are in most provinces governed by the various Factory and similar Acts, and in some provinces the Boards have power to make further restrictions. In Ontario the Act was amended to give the Board authority to state the hours for which the minimum rates were payable and to establish rates for additional hours. The hours for female employees are limited by the Factory Act to 10 per day and 60 per week, additional hours being permitted only when authorized by the factory inspector to meet emergencies and under certain limitations. In Quebec the provision is similar, except that the maximum hours are 10 per day and 55 per week.

The information here given is intended to afford merely a statistical summary of the minimum wages and restricted hours of labour in the provinces and industries affected. While some of the more significant details have been given in footnotes, it has been found impossible to include the information in such form as to indicate any more than the general conditions under these provisions.

Employees Under Orders of Minimum Wage Boards in Canada, 1930.

Nova Scotia.				Ontario (b).				Quebec.				Saskatchewan†.			
Wages per Wk.		Hours—		Wages per Week.		Hours—		Wages per Week.		Hours—		Wages per Week.		Hours—	
Adults, Experienced.	Minors, Learners, etc.	per day	per wk.	Adults, Experienced.	Minors, Learners, etc.	per day	per wk.	Adults, Experienced.	Minors, Learners, etc.	per day	per wk	Adults, Experienced.	Minors, Learners, etc.	per day	per wk.
$	$			$	$			$	$			$	$		
*11·00	*7·00–10·00	–	(l)	(c)10·00 .12·50	6·00–10·00	–	(d)	(e)8·00 –12·50	(e)5·00–11·00	–	(f)	14·00	7·50–11·50	–	48
–	–	–	–	(v)	–	–	–	9·00–12·50	6·00–11·00	–	44–55	(j) 15·00	(g)3·00–12·00	–	49–51
–	–	–	–	(c)10·00 12·50	(r)6·00–10·00	–	–	–	–	–	–	(j) 15·00	(g)3·00–12·00	–	49–51
–	–	–	–	10·00–12·50	6·00–10·00	–	–	9·00–12·50	6·00–11·00	–	44–55	(j) 15·00	(g)3·00–12·00	–	49–51
–	–	–	–	(v)	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	(e)10·00 12·50	6·00–10·00	–	(d)	–	–	–	–	–	–	–	–
10·00–(x)11.00	6·00–(x)10.00	–	(l)	10·00–12·50	6·00–10·00	–	(d)	9·00–12·50	6·00–11·00	–	(f)	14·00	7·50–11·50	–	48
–	–	–	–	11·00–12·00	7·00–11·00	–	(l)	9·00–12·00	8·00–10·50	–	–	14·00	9·50–11·50	–	48
–	–	–	–	8·00–12·50	6·00–11·00	–	(l)	–	–	–	–	(j) 15·00	7·00–13·50	–	49–51
(x) 10·00–11·00	(x) 8·00–10·00	–	(i)	10·00–12·50	–	–	(n)	–	–	–	–	(o)13.00-14·00	11·00–12·00	–	50–56
–	–	–	–	11·00–12·50	–	–	(q)	–	–	–	–	–	–	–	–
–	–	–	–	(s)12·00 –12·50	6·00–(w)10.00	–	–	–	–	–	–	15·00	10·00–12·00	10	50
–	–	–	–	(w) 8·00 –12·50	6·00–11·00	–	– –	–	–	–	–	–	–	–	–
–	–	–	–	(t)7·00–12·50	5·00–11·00	–	–	–	–	–	–	–	–	–	–
–	–	–	–	8·00–12·50	–	–	–	–	–	–	–	–	–	–	–

(k) In the fishing industry a minimum rate of $15.50 per week (48 hours) or 32½cts. per hour is set for experienced workers (12 months); $12.75 to $14.75 under one year.

(l) Rate applies to work between 44 and 50 hours per week, hours in excess of 50 to be paid at not less than a rate based on 50 hours per week; hours under 44 at a rate based on normal hours in establishment.

(m) Longer working time permitted on Saturdays, etc., and sometimes in certain months.

(n) Full minimum rate for 36 hours or longer up to 50 hours for time under 36 hours and over 50 hours, 20 to 25 cents per hour, according to population; order applies only to localities of 4,000 and up.

(o) Kitchen help $11 per week of six days or $12 per week of seven days: 35 cents per hour.

(p) Including garages, gasolene, service stations, shooting galleries, elevator service, etc.; in British Columbia, driving vehicles, ushers, cloak-room attendants, etc., special provision for broken and part time.

(q) Full minimum rate for 40 hours or more worked; 25 to 30 cents per hour for work less than 40 hours.

(r) Custom millinery in localities of 4,000 population and up.

(s) Cities of 30,000 and up.

(t) Telephone only: in localities of 4,000 and up and those having 200 or more telephone subscribers.

(u) Probationary period in departmental stores with minimum of $6 thereafter.

(v) In establishments classified as factories, covered by factory orders.

(w) Applies also to wholesale houses and warehouses. (x) Cities and towns only.

Subsection 2.—Minimum Wages for Male Employees.

In Alberta, legislation of 1926 provides that no male may be employed at a lower wage than the minimum rate for female employees in the same class of work, except in the case of apprentices under indenture approved by the Commissioner of Labour, who is the Secretary of the Minimum Wage Board.

In British Columbia the orders issued under the Male Minimum Wage Act, 1925, having been declared invalid in October, 1928, by the Supreme Court of Canada (see *Labour Gazette,* November, 1928, p. 1310), a new Act was enacted in the session of 1929. This like the original applied to all occupations except those of farm labourers, fruit pickers, fruit packers, fruit and vegetable canners and domestic servants. On Jan. 22, 1930, an order effective from that date was issued providing for a minimum rate of 50 cents per hour for " stationary steam engineers " and 40 cents per hour for " special engineers " as defined under the "Boiler Inspection Act". On July 31, 1930, an order was issued effective from that date providing for a minimum rate of 80 cents per hour for licentiates in pharmacy, engaged in the selling, dispensing, etc., of drugs, etc.

Section 3.—Cost of Living of Wage Earners.

An index number of the cost of living in working men's families has been computed by the Department of Labour since 1913, and is published monthly in the *Labour Gazette.* This index is specifically designed for the purpose of measuring the trends of the cost of living for certain wage-earning classes with a somewhat lower standard of living than that which is measured by the Bureau of Statistics index number of retail prices, shown on pp. 818-819 of the present volume. The former wage-earner's index is used extensively in negotiations as to wage rates and in the settlement of industrial disputes. An abridgement of this index is presented in Table **5.**

5.—Changes in the Cost of Living in Canada from 1914 to 1930.[1]

(Average prices in 1913=100.)

Month and Year.	Food.	Fuel and Light.	Rent.	Clothing.	Sundries.	All Items.
Dec. 1914	108	98	97	103	100	103
Dec. 1915	111	96	94	115	110	107
Dec. 1916	138	109	95	136	122	124
Dec. 1917	167	125	102	158	134	143
Dec. 1918	186	146	111	185	151	162
Dec. 1919	201	148	122	210	164	176
Dec. 1920	202	200	142	232	173	190
Mar. 1921	180	191	142	193	173	175
June 1921	152	179	149	193	173	165
Sept. 1921	161	174	149	177	173	165
Dec. 1921	150	172	150	177	173	161
Mar. 1922	144	169	151	165	173	157
June 1922	139	167	154	165	174	156
Sept. 1922	140	179	155	162	174	157
Dec. 1922	142	177	155	162	174	157
Mar. 1923	147	178	156	163	173	159
June 1923	139	169	158	163	173	156
Sept. 1923	142	171	158	164	172	157
Dec. 1923	146	172	158	164	171	159
Mar. 1924	144	169	158	160	171	157
June 1924	134	163	158	160	170	153
Sept 1924	140	163	158	159	169	154

For footnote see end of table, p. 799.

5.—Changes in the Cost of Living in Canada from 1914 to 1930[1]—concluded.

(Average prices in 1913=100.)

Month and Year.	Food.	Fuel and Light.	Rent.	Clothing.	Sundries.	All Items.
Dec. 1924	144	162	158	159	169	156
Mar. 1925	146	162	158	160	168	156
June 1925	142	159	158	160	168	155
Sept. 1925	147	160	158	159	167	156
Dec. 1925	157	166	158	159	166	160
Mar. 1926	156	166	158	157	166	159
June 1926	151	162	156	157	166	157
Sept. 1926	149	160	156	157	166	156
Dec. 1926	152	162	156	157	166	157
Mar. 1927	151	161	156	157	166	157
June 1927	148	158	156	154	166	155
Sept. 1927	148	158	156	155	166	155
Dec. 1927	152	158	156	155	166	157
Mar. 1928	149	159	156	155	166	156
June 1928	146	158	157	157	166	155
Sept. 1928	152	157	157	157	166	157
Dec. 1928	154	157	157	157	166	158
Mar. 1929	153	158	157	157	166	157
June 1929	149	157	158[2]	157	166	156
Sept. 1929	159	156	158[2]	157	166	159
Dec. 1929	161	157	158	157	166	160
Jan. 1930	162	157	158	156	166	160
Feb. 1930	161	157	158	155	166	160
Mar. 1930	159	157	158	155	166	159
April 1930	153	157	158	155	166	157
May 1930	152	156	160	155	166	157
June 1930	151	156	160	155	166	157
July 1930	149	156	160	155	166	156
Aug. 1930	145	156	160	155	166	155
Sept. 1930	141	156	160	148	165[2]	152
Oct. 1930	141	156	160	148	165[2]	152
Nov. 1930	140	156	160	148	165[2]	152
Dec. 1930	138	156	160	148	165	151

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[1] The figures for "all items" were calculated by giving the following weights to each group: Food 35 p.c.; Fuel 8 p.c.; Rent 18½ p.c.; Clothing 18½ p.c. and Sundries 20 p.c.

[2] Revised.

CHAPTER XX.—PRICES.[1]

Commodity prices naturally fall into two main divisions—wholesale prices and retail prices. Because the number of wholesale traders is smaller than that of retail traders, buying and selling by carefully defined grades more prevalent, and price ranges at any particular time and place much narrower, it would appear that wholesale prices and their fluctuations are more easily and accurately ascertainable than retail prices. But this advantage is largely offset by certain difficulties inherent in the nature of index numbers of wholesale prices. The making of an index number of wholesale prices for general purposes requires the inclusion of a much wider range of commodities than is necessary for a retail or cost of living index. Moreover, wholesale commodities are in all stages from raw material to finished product, while retail prices are concerned only with the latter. At each stage in the evolution of a commodity we are frequently confronted with several grades, and this situation is complicated by the fact that grades undergo changes in the course of time. Hence, to secure from month to month and year to year quotations which give accurate continuity is a task in which eternal vigilance is the price of success. The maker of wholesale index numbers must be assiduous in acquiring and keeping up to date a knowledge of grades and qualities, and in dealing with a very large list of commodities this is a difficult task. With retail prices, the question of grades is not quite so involved and in some cases it is sufficient to obtain quotations on the basis of "the kind principally sold".

Wholesale transactions are generally between expert buyers and sellers, dealing on purely business principles. Accordingly, wholesale prices conform approximately to the operation of the principle of supply and demand, and are thus more valuable as an index to the current state of business. Retail prices, on the other hand, are governed to some extent by custom and do not respond easily to fluctuations in wholesale prices. Indeed, small fluctuations in wholesale prices are not fairly reflected in retail prices because of the limitations of the currency in representing small quantities of commodities. Retail prices vary considerably for the same commodity in different parts of the same city, owing to differences in the service rendered, in location of stores and in classes of customers.

Further, since wholesale prices are determined by the business situation of the moment while retail prices change more slowly, there exists what is technically called a "lag" between the two, retail prices not showing changes in fundamental business conditions until some time after wholesale prices. Thus, while wholesale prices in Canada reached the peak in May, 1920 and commenced to decline in June, retail prices reached the peak in July, 1920, and began to decline in August.

Retail prices find one of their chief uses in the measurement of changes in the cost of living. This measurement is complicated by such changing factors as consumption, habits and standards of living, and qualitative changes in commodities included in the budget, particularly clothing. The difficulty of maintaining comparability between one period and another necessitates very thorough research and an elaborate collection of retail price data.

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[1] Revised by Herbert Marshall, B.A., F.S.S., Chief, Internal Trade Branch, Dominion Bureau of Statistics. This Branch compiles and publishes statistics on: Prices (wholesale, retail, securities, services, interest rates, cost of living), Retail and Wholesale Trade, Foreign Capital Investment in Canada and Canadian Investment Abroad, Balance of International Payments and other related activities. For a complete list of the publications of this Branch the reader is referred to Chapter XXVIII, Section I, under "Internal Trade".

Section 1.—Wholesale Prices of Commodities.

Subsection 1.—Historical Review of Canadian Prices.

Until recently the index number of wholesale prices in Canada did not go back beyond 1890. However, it has now been extended backward to 1867 on the 1913 base, the added quarter of a century including a very interesting period to students of price statistics. The average index numbers for every year since Confederation are given in Table **1.** In that table will be noted the high prices of 1867, immediately following the close of the American Civil War and the Austro-Prussian War of 1866, and the tendency to declining prices in the years immediately following. Prices went up again after the Franco-German War of 1871 and reached a high point in 1872 and 1873, but the crisis of the last-named year resulted in a decline. This declining trend persisted fairly steadily throughout the 25 years from 1872 to 1897 and was featured by an inadequate increase in the supply of gold. The gold supply of the world did not increase as rapidly as the supply of commodities, consequently more commodities could be secured for a given amount of gold. This gold shortage was accentuated by the demonetization of silver which ceased to be legal tender with gold and was reduced to the level of token money by the chief nations. Relief came through the discoveries of gold in the Rand mines and the application of the cyanide process to low-grade ores. The result was a rapidly increasing world production of gold from about 1890 down to the outbreak of the Great War, with consequent rising general prices as soon as the volume of the new gold became a large part of the total stock. Thus prices increased from the low point of 75·6 in 1897 to 100 in 1913 and 102·3 in 1914. Afterwards, the Great War, both through the scarcity of commodities which it occasioned and the inflation of the currency which it produced, drove prices rapidly upward to a maximum of 243·5 in 1920, followed by a rapid collapse to 152·0 in 1922. This was succeeded by a slight increase to 160·3 in 1925, but the tendency since 1925 has been downward.

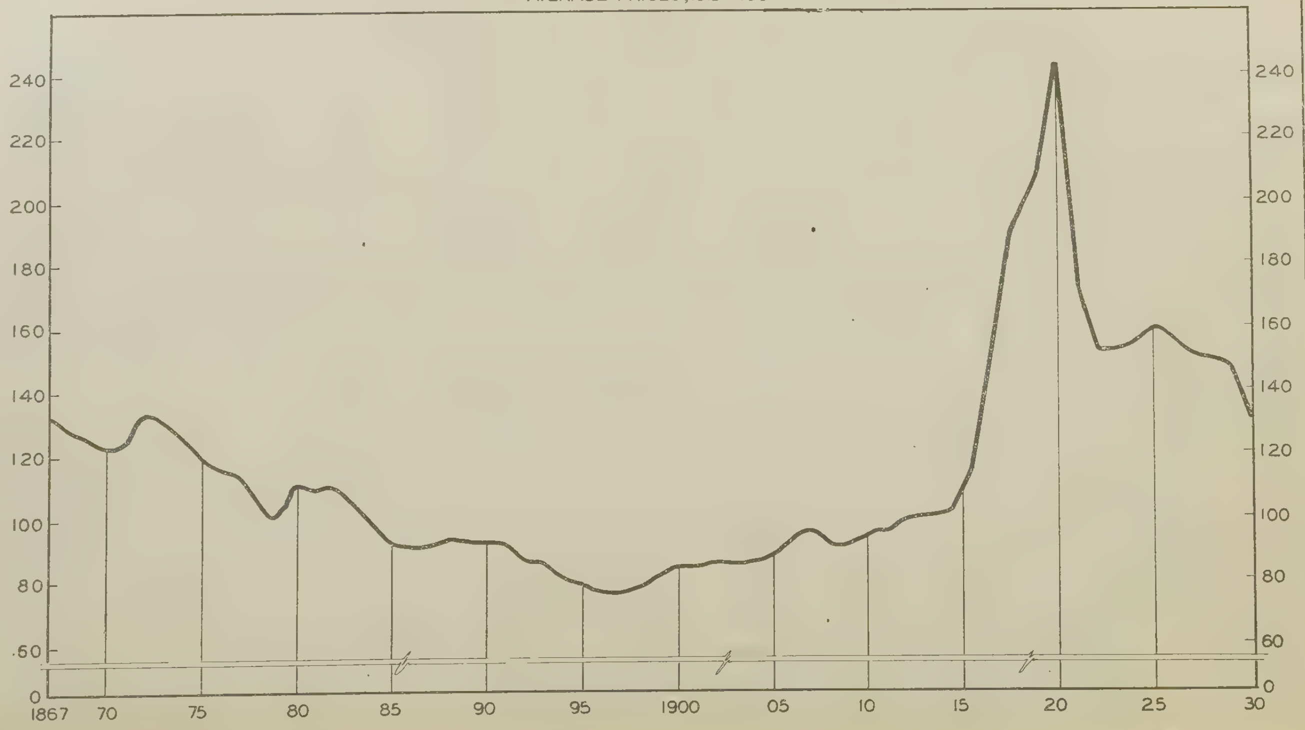
Commencing in the fall of 1929, a severe economic depression set in which was accompanied by a drastic decline in wholesale prices. By December, 1930, the index on the 1913 base was 121·4 and for the whole year it averaged 135·3.

1.—Annual Index Numbers of Wholesale Prices in Canada, 1867-1930.

(1913=100.)

1867	133·0	1883	106·0	1899	81·4	1915	109·9
1868	128·7	1884	100·6	1900	85·8	1916	131·6
1869	126·5	1885	92·7	1901	84·5	1917	178·5
1870	123·5	1886	90·7	1902	86·2	1918	199·0
1871	124·5	1887	91·9	1903	86·9	1919	209·2
1872	135·7	1888	93·5	1904	87·0	1920	243·5
1873	133·8	1889	92·6	1905	87·8	1921	171·8
1874	129·0	1890	93·0	1906	92·6	1922	152·0
1875	120·7	1891	91·4	1907	96·2	1923	153·0
1876	116·6	1892	86·2	1908	90·9	1924	155·2
1877	115·1	1893	85·2	1909	91·4	1925	160·3
1878	104·3	1894	80·6	1910	94·3	1926	156·2
1879	101·0	1895	79·6	1911	95·0	1927	152·6
1880	112·9	1896	76·0	1912	99·5	1928	150·6
1881	109·9	1897	75·6	1913	100·0	1929	149·3
1882	112·1	1898	77·8	1914	102·3	1930	135·3

THE COURSE OF WHOLESALE PRICES IN CANADA
1867—1930
AVERAGE PRICES, 1913 = 100



Subsection 2.—The New Index Number on a Post-War Base (1926).

The official Canadian index number of wholesale prices and other price indexes computed by the Dominion Bureau of Statistics have been revised and calculated with the year 1926 as base. In the index of wholesale prices, the number of price series has been increased from 236 to 502, some of the latter being composite prices. For example, the index number for milk is obtained from the weighted average of 15 prices collected at representative centres all over the Dominion. New statistical materials have made possible refinements and extensions of the weighting system previously used; this adds to the accuracy of the index numbers, particularly those of groups and sub-groups. A detailed explanation of the methods now used in computing the indexes and the reasons for their adoption follows:—

Base Year.—Since the nations of the world and along with them their currency systems have arrived, or are in the process of arriving, at a condition which may perhaps be called post-war "normalcy", comparisons with pre-war years become less important and interesting, and the need arises of placing index numbers upon some post-war base which will serve as a suitable background for future movements. A second important reason lies in the necessity of a periodical revision of index numbers so as to take account of current changes in the kind, quality and weighting of the commodities used in their computation. Ten years ago, the maker of index numbers was not concerned with artificial silk, but today this commodity must be given an important place in the textile group. Again, such commodities as newsprint paper, copper, wheat, etc., must be given a greater weight in a Canadian index based on current conditions than in one based on 1913 conditions. So many changes take place in the production, consumption and exchange of commodities in a decade that a periodical revision of index numbers based upon them is a necessity.

It is preferable that a base period should consist of an average of several years, but the abnormal conditions which prevailed during and after the war furnish insuperable obstacles to a base of this character. Prior to 1925 the disparity between farm prices and the prices of manufactured goods was an abnormal factor in the prices situation. In Canada this was rectified in 1925, when on account of the marked rise in grain prices, the index for which rose from 143·9 in 1924 to 180·3 in 1925, a price level unusually high for the period resulted. It was finally decided to take as base the year 1926, the price level for which was about halfway between that for 1925 and 1927. This is in effect practically equivalent to an average of the three years 1925, 1926 and 1927. The Bureau was also influenced in its choice of 1926 as base by the fact that the index numbers computed by the United States Bureau of Labour Statistics are on the 1926 base. It was desirable, owing to the close interrelation of price movements in the two countries, to construct the index numbers on similar principles for comparative purposes.

Number of Price Series Included.—The new total index number for all commodities shows very much the same movement as the old series. It was however, mainly for the purpose of improvements in groups and sub-groups that the number of price series included in the index was increased from 236 to 502. This large increase in the number of items included made it possible to make many groups much more comprehensive and representative. Building and construction materials, for example, are now represented by a wider range of commodities as well as by a more geographically complete series of prices. The number of price series in this group was increased from 32 to 90. Similar improvements have been made in a great many other groups and sub-groups. Chemicals and Allied Products now includes 73 price series as compared with 13 in the old index. Non-metallic Minerals and Their Products is represented by 73 price series in the new index and 16 in the old. These changes in the number of price series have added greatly to the usefulness of the index numbers as regards groups and sub-groups, which furnish subsidiary index numbers for special purposes.

Formula.—Actual calculations of the index number were made according to the same formula as before. This formula, which produces the aggregative index, is now used for the purpose of calculating many of the most important index numbers and for a comparison of three or more periods on a fixed base has the support of many eminent index number makers. It is expressed as follows: $\Sigma\frac{P_1 \ Q_o}{P_o \ Q_o}$.

Weighting.—Weighting, of course, must conform to the formula used, but many variations are possible within the system. Quantity exchange is the basis of the Bureau's weight, that is to say, production and import figures are used to arrive at a weight, but as regards production, only quantities actually marketed are considered. In arriving at the weight for any commodity, duplication is avoided by making deductions, where possible, when the commodity is included again in another form, for example in the case of wheat and flour. An improvement in weighting has been made by working out a threefold system, *viz.*, weights for individual commodities, sub-groups, and finally, groups of commodities. In the first place the commodities in each sub-group are weighted in such a manner as to arrive at the most accurate index for that sub-group. Such weights, however, will not do for a main group which may include another sub-group containing the same commodity in a different form. For this reason, the sub-group index numbers are again weighted by sub-group weights (values worked into percentages). Another reason for the sub-group weights is the fact that in each sub-group only representative commodities are included. In order to give each sub-group sufficient weight in arriving at a group index it must be weighted by a figure which represents as far as possible the total value of all commodities which might be included in the sub-group. Finally, group index numbers are weighted in arriving at the index number for all commodities, so as to ensure that no group index will wield a disproportionate influence upon the final result. The group weight is the estimated total importance in exchange of all commodities which can be classified in that particular group. An example will make this clear:—

Grains are a sub-group of the main group Vegetables and Their Products. Individual commodity and sub-group weights are as follows:—

Commodity.	Weight for Individual Commodity or Prices Series.	Sub-group Weight.
Barley, No. 3, C.W. x 40%	Average price x 45,000,000 bushels	$325,000,000 or 35·38 p.c.
Barley, No. 4, C. W. x 30%		
Barley, Feed x 30%		
Barley, good malting	Average price x 3,000,000 bushels	
Corn, Am. Yellow, No. 2	Average price x 12,000,000 bushels	
Corn, Am. Yellow, No. 3		
Flax, No. 1, N.W.C. x 70%	Average price x 6,000,000 bushels	
Flax, No. 2, N.W.C. x 15%		
Flax, No. 3, N.W.C. x 15%		
Oats, No. 2 C.W. x 20%	Average price x 50,000,000 bushels	
Oats, No. 3 C.W. x 25%		
Oats, No. 1 Feed (Western) x 30%		
Oats, No. 2 Feed (Western) x 25%		
Oats, Ontario	Average price x 10,000,000 bushels	
Peas, No. 2 White, Ontario	Average price x 2,000,000 bushels	
Rye, No. 2 C.W. x 70%	Average price x 7,000,000 bushels	
Rye, No. 3 C.W. x 10%		
Rye, Rejected, x 20%		
Rye, No. 2 Ontario	Average price x 2,000,000 bushels	
Wheat, No. 1 Man. Northern, x 35%	Average price x 350,000,000 bushels	
Wheat, No. 2 Man. Northern, x 25%		
Wheat, No. 3 Man. Northern, x 40%		
Wheat, No. 2 Ontario	Average price x 20,000,000 bushels	

The index number for the above sub-group is weighted by the aggregate value of all grains marketed less the values of grain shown elsewhere in the form of other commodities such as flour, rolled oats, linseed oil, etc. For this sub-group the weight is $325,000,000 or 35·38 p.c. of the total value of the whole Vegetable Products group.

Quantities and values used for weights are, in the main, for the year 1926, but where weights for that year are not deemed to be representative, conditions in other years are considered. Sometimes an average of several representative years is taken. There is no attempt made to adhere rigidly to one hard and fast rule of weighing. In many cases, modifications are made with the object of adopting the weights likely to obtain the most satisfactory results. Final group weights are as follows:—

Vegetables and Their Products	30
Animals and Their Products	16
Fibres, Textiles and Textile Products	9
Wood, Wood Products and Paper	15
Iron and Its Products	12
Non-Ferrous Metals and Their Products	6
Non-Metallic Minerals and Their Products	9
Chemicals and Allied Products	3
Total	**100**

Classification of Commodities.—These new index numbers have been issued in the same three classifications as the old index, *viz.*, Component Materials, Purpose and Origin.

NUMBER OF PRICE SERIES INCLUDED IN THE NEW AND OLD INDEX NUMBERS OF WHOLESALE PRICES.

	New.	Old.
Vegetables and Their Products	124	67
Animals and Their Products	74	50
Fibres, Textiles and Textile Products	60	28
Wood, Wood Products and Paper	44	21
Iron and Its Products	39	26
Non-Ferrous Metals and Their Products	15	15
Non-Metallic Minerals and Their Products	73	16
Chemicals and Allied Products	73	13
Totals	**502**	**236**

The Dominion Bureau of Statistics annual index number of wholesale prices for 1930 was 86·6 as against 95·6 in 1929. It represented a drop of 44·4 p.c. from the peak year 1920, but still remained 35·3 p.c. above the 1913 index of 64·0. No annual average index has been so low since 1916, when the number was 84·3. The current decline in the index was first apparent in September, 1929, and in the fifteen-month period between that time and November, 1930, it has fallen from 98·4 to 79·5, or 18·3 p.c. During the 1920-21 recession, the index dropped almost without a break from May, 1920, to December, 1921, a period of nineteen months. The difference between the peak and trough of the movement at that time amounted to 41·3 p.c.

All of the various commodity groups, which are combined to calculate the general index numbers given above, moved appreciably lower in 1930. Vegetable Products fell from 91·6 in 1929 to 77·7, the largest drop registered by any class of commodities. Drastic reductions in prices for grains combined with appreciably lower quotations for sugar, coffee, flour, and rubber, were the chief influences upon the course of the index. Animals and Their Products declined from 109·0 to 99·1 due mostly to weaker prices for furs, hides and skins, live stock, meats, and butter. Fibres, Textiles and Textile Products were 81·8 as against 91·3 in 1929. Both raw and finished items of cotton, wool, silk, and rayon were generally lower for the current year. Wood, Wood Products and Paper dropped from 93·9 to 88·7, lumber and timber of nearly all descriptions having been cut in price. Iron and Its Products moved down from 93·7 to 91·1, average quotations being lower for rolling-mill products and iron and steel billets. Non-Ferrous Metals and Their Products broke from 99·2 to 80·7, due to abrupt reductions in copper and steady declines in lead, tin, zinc, and silver. Non-Metallic Minerals and Their Products changed from 92·9 to 91·3, easier prices for coal, petroleum products, asbestos, and building brick accounting largely for the decline. Chemicals and Allied Products were 92·8 as against 95·4 in 1929, principally because paint materials and tanning and dyeing materials moved downward. Of the 502 items, 324 were lower as the year closed than they had been in January, while 142 remained unchanged, and 36 were higher.

2.—Weighted General Price Index Numbers, by Months, 1922-1930.

(1926=100.)

Month.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
January	97·1	97·0	100·4	106·0	103·0	97·8	96·9	94·0	95·3
February	98·3	97·1	100·4	105·4	102·1	97·6	96·8	95·0	93·9
March	98·3	98·3	98·8	103·5	101·3	97·3	97·7	95·6	91·8
April	98·4	102·4	96·7	100·2	101·2	97·3	98·3	94·5	91·2
May	98·5	100·4	96·4	101·7	100·2	98·3	97·9	93·4	89·7
June	97·8	99·6	97·5	101·5	100·1	98·7	96·9	93·4	87·7
July	98·7	98·3	98·5	101·2	100·1	98·5	96·0	97·2	85·3
August	97·1	98·3	100·4	101·7	99·1	98·3	95·3	98·4	83·7
September	94·4	99·0	98·5	100·0	98·5	97·1	95·4	97·8	82·1
October	94·8	98·0	100·5	99·9	98·1	97·2	95·2	96·8	81·0
November	97·2	98·1	101·0	103·2	97·7	96·9	94·9	95·7	79·5
December	98·0	98·3	103·0	104·7	97·9	97·2	94·6	96·0	77·7
Yearly Averages	**97·3**	**98·0**	**99·4**	**102·6**	**100·0**	**97·7**	**96·4**	**95·6**	**86·6**

3.—Annual Weighted Index Numbers of Wholesale Prices of Commodities, by Groups (Chief Component Material Classification), 1913-1930, with Monthly Figures for 1928-1930.

NOTE.—The monthly and annual figures for 1927 and 1928 have been revised, particularly as regards the groups of Animals and their Products and Non-Ferrous Metals and their Products. These revisions also affect slightly the "All Commodities" column.

(1926=100.)

Year and Month.	Groups.								
	Vegetable Products.	Animals and Their Products.	Fibres, Textiles and Textile Products.	Wood, Wood Products and Paper.	Iron and Its Products.	Non-Ferrous Metals and Their Products.	Non-Metallic Minerals and Their Products.	Chemicals and Allied Products.	All Commodities.
	Numbers of Commodities Selected.								
1913-25	67	50	28	21	26	15	16	13	236
1926-30	124	74	60	44	39	15	73	73	502
1913	58·1	70·9	58·2	63·9	68·9	98·4	56·8	63·4	64·0
1914	64·8	72·6	56·9	60·3	67·3	94·7	53·7	65·3	65·5
1915	75·6	74·0	58·3	56·5	73·9	106·9	52·7	68·1	70·4
1916	87·0	85·0	77·6	64·0	104·6	135·1	58·0	78·0	84·3
1917	124·5	110·4	114·6	79·8	151·8	143·9	71·6	98·1	114·3
1918	127·9	127·1	157·1	89·1	156·7	141·9	82·3	118·7	127·4
1919	136·1	140·8	163·8	109·6	139·1	133·5	93·0	117·5	133·9
1920	167·0	145·1	176·6	154·4	168·4	135·5	112·2	141·5	155·9
1921	103·5	109·6	96·0	129·4	128·0	97·0	116·6	117·0	110·0
1922	86·2	96·0	101·7	106·3	104·6	97·3	107·0	105·4	97·3
1923	83·7	95·0	116·9	113·0	115·8	95·3	104·4	104·4	98·0
1924	89·2	91·8	117·9	105·9	111·0	94·8	104·1	102·5	99·4
1925	100·6	100·3	112·5	101·6	104·5	103·9	100·3	99·6	102·6
1926	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**
1927	98·3	101·9	93·7	98·5	96·2	91·5	96·5	98·3	97·7
1928	93·0	108·1	94·5	98·7	93·2	92·0	92·5	95·3	96·4
1929	91·6	109·0	91·3	93·9	93·7	99·2	92·9	95·4	95·6
1930	77·7	99·1	81·8	88·7	91·1	80·7	91·3	92·8	86·6
1928.									
January	95·0	107·1	94·5	98·4	93·7	91·4	92·8	96·9	96·9
February	95·2	106·3	94·3	98·5	94·1	90·4	93·3	96·2	96·8
March	97·9	107·1	93·3	98·8	94·1	90·2	93·0	96·1	97·7
April	101·4	104·4	93·5	98·9	94·0	90·5	92·5	95·4	98·3
May	101·3	102·5	93·7	99·0	94·0	91·7	91·1	95·4	97·9
June	96·4	105·8	93·9	99·1	92·7	92·3	91·3	95·2	96·9
July	92·6	108·3	94·2	98·2	92·7	91·7	91·3	95·2	96·0
August	88·4	111·2	93·8	98·6	92·5	91·9	92·2	95·1	95·3
September	86·9	114·0	93·9	99·0	92·6	91·9	92·4	94·6	95·4
October	88·0	111·5	92·9	98·5	92·5	93·0	92·6	94·6	95·2
November	87·3	110·3	92·2	98·6	92·8	94·1	92·8	94·3	94·9
December	86·3	109·4	93·2	98·3	93·0	95·1	93·4	94·3	94·6
1929.									
January	87·1	107·0	93·2	93·7	93·3	96·9	93·4	94·9	94·0
February	89·8	107·8	93·2	94·0	93·3	99·7	92·6	94·9	95·0
March	88·5	110·0	92·8	94·9	93·5	107·1	92·7	95·0	95·6
April	86·5	108·9	92·4	94·6	93·8	103·5	91·9	95·4	94·5
May	84·0	108·4	91·8	94·1	94·4	99·2	92·3	95·5	93·4
June	84·8	107·7	91·6	94·0	93·8	98·7	93·0	95·6	93·4
July	96·9	108·5	91·5	93·9	93·8	98·5	93·4	95·8	97·2
August	100·1	109·9	91·1	94·0	93·8	98·5	93·6	95·3	98·4
September	98·9	108·9	91·2	93·7	93·8	98·2	93·2	95·5	97·8
October	96·3	109·9	90·4	93·0	93·5	97·5	92·3	95·4	96·8
November	93·5	108·4	89·8	93·1	93·4	96·7	92·8	95·1	95·7
December	93·9	109·8	89·6	93·2	93·4	96·5	93·4	95·1	96·0
1930.									
January	92·0	109·9	88·6	93·3	92·9	95·5	93·4	94·6	95·3
February	88·7	109·5	87·3	92·7	92·7	94·8	93·3	94·3	93·9
March	84·9	106·1	85·8	91·8	92·5	93·1	93·3	94·1	91·8
April	86·3	104·2	83·4	91·2	92·4	86·8	93·0	94·0	91·2
May	85·3	102·6	83·0	89·7	91·4	80·6	90·8	93·5	89·7
June	83·0	97·0	82·1	89·1	91·2	77·8	90·5	93·0	87·7
July	78·5	93·5	80·8	87·6	90·8	75·8	90·4	92·8	85·3
August	75·1	92·1	79·9	86·6	90·7	74·4	90·5	92·2	83·7
September	69·8	93·4	79·2	86·2	90·4	73·7	90·8	92·0	82·1
October	66·7	95·3	77·5	85·6	90·0	70·5	90·9	91·3	81·0
November	62·6	93·4	77·5	85·8	89·3	73·5	89·4	90·9	79·5
December	59·3	90·5	76·9	85·2	89·0	71·6	89·4	90·3	77·7

4.—Index Numbers of Wholesale Prices of Commodities, Classified According to Purpose, by Yearly Averages, 1914-1930, and by Months, 1928-1930.

(1926=100. Includes revised figures for 1929.)

Year and Month.	Consumers' Goods.			Producers' Goods.					All Commodities.
	All.	Foods, Beverages and Tobacco.	Other.	All.	Producers' Equipment.	Producers' Materials.			
						All.	Building and Construction.	Manufacturers'.	
				Number of Price Series.					
1913–25	98	74	24	146	15	131	32	99	236
1926–30	204	116	88	351	22	329	97	232	502
1914	62·7	65·2	59·7	69·7	52·0	72·1	62·9	74·3	65·5
1915	65·6	68·6	61·8	77·0	53·1	80·2	60·5	84·8	70·4
1916	74·7	81·7	65·8	88·1	55·7	92·5	69·6	97·9	84·3
1917	95·4	109·4	77·6	119·6	69·6	126·3	87·6	135·5	114·3
1918	107·0	119·4	91·4	131·5	80·4	138·3	100·9	147·2	127·4
1919	118·7	128·2	106·7	139·0	90·7	145·5	117·3	152·2	133·9
1920	140·0	151·0	126·3	163·1	108·6	170·4	144·0	176·6	155·9
1921	108·0	105·4	111·4	112·8	113·8	112·6	122·8	110·2	110·0
1922	95·1	90·2	101·4	99·1	104·1	98·2	108·7	95·8	97·3
1923	93·7	91·2	97·0	97·8	102·5	97·1	111·9	93·7	98·0
1924	93·2	90·4	96·8	99·5	102·7	99·0	106·6	97·5	99·4
1925	97·2	97·7	96·5	104·9	99·2	105·5	102·9	106·2	102·6
1926	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**
1927	95·7	99·4	93·3	98·5	101·1	98·1	96·1	98·6	97·7
1928	95·6	99·6	92·9	96·7	93·7	97·0	97·4	96·9	96·5
1929	94·7	100·0	91·1	96·3	94·6	96·5	99·0	95·9	95·6
1930	89·3	93·1	86·8	82·8	92·9	81·7	90·8	79·7	86·6
1928.									
January	96·0	99·2	93·9	97·9	94·8	98·2	95·2	98·9	96·9
February	96·1	99·4	93·9	97·7	95·9	97·9	95·4	98·4	96·8
March	96·1	100·2	93·5	99·0	95·7	99·4	96·0	100·1	97·7
April	95·9	100·3	92·9	100·7	95·7	101·3	96·2	102·4	98·3
May	95·1	98·5	92·8	101·0	92·4	101·9	96·3	103·1	97·9
June	95·4	98·9	93·1	98·8	92·4	99·5	96·5	100·2	96·9
July	95·2	99·6	92·2	96·9	92·4	97·4	97·9	97·3	96·0
August	95·9	101·1	92·5	94·3	92·8	94·5	98·1	93·7	95·3
September	96·4	101·7	92·8	93·7	92·8	93·8	98·6	92·8	95·4
October	95·7	100·3	92·6	93·7	92·8	93·8	98·0	92·9	95·2
November	95·1	99·1	92·4	93·4	92·8	93·5	98·3	92·4	94·9
December	94·5	97·4	92·5	93·4	94·5	93·3	98·1	92·3	94·6
1929.									
January	94·1	96·6	92·4	93·6	94·4	93·5	98·0	92·5	94·0
February	94·2	97·5	92·0	95·5	94·1	95·6	98·9	94·9	95·0
March	94·6	98·8	91·8	96·1	94·1	96·3	100·6	95·4	95·6
April	93·6	97·4	91·0	95·0	94·0	95·1	100·2	94·0	94·5
May	93·0	96·5	90·7	93·1	94·9	92·9	99·1	91·5	93·4
June	93·4	96·7	91·2	93·5	94·0	93·4	98·6	92·2	93·4
July	94·7	99·7	91·3	100·6	94·9	101·3	98·9	101·8	97·2
August	96·3	103·7	91·3	100·2	94·9	100·8	99·2	101·2	98·4
September	96·0	103·7	90·8	98·9	94·7	99·4	99·6	99·3	97·8
October	95·5	103·7	90·1	97·1	94·3	97·4	98·5	97·1	96·8
November	94·3	100·3	90·3	95·1	94·5	95·2	98·2	94·5	95·7
December	95·3	103·3	90·0	95·9	96·2	95·9	97·9	95·5	96·0
1930.									
January	95·2	103·4	89·8	94·5	96·2	94·3	97·4	93·6	95·3
February	95·0	103·3	89·4	91·8	96·2	91·5	96·6	90·4	93·9
March	93·3	100·2	88·7	89·5	96·2	88·8	96·1	87·2	91·8
April	92·3	99·4	87·5	90·0	96·2	88·3	94·7	86·9	91·2
May	91·3	98·1	86·7	87·1	91·5	86·6	92·9	85·2	89·7
June	89·5	94·2	86·4	85·0	91·4	84·3	92·2	82·5	87·7
July	87·7	90·5	85·9	81·5	91·2	80·4	89·5	78·4	85·3
August	86·3	87·2	85·7	79·9	91·2	78·6	87·8	76·6	83·7
September	86·1	86·7	85·7	76·7	91·2	75·1	86·8	72·5	82·1
October	86·0	87·0	85·4	74·6	91·2	72·8	85·6	70·0	81·0
November	84·5	83·9	84·9	73·4	90·9	71·4	85·7	68·2	79·5
December	83·2	81·0	84·6	71·3	91·5	69·0	85·0	65·5	77·7

5.—Weighted Index Numbers of Wholesale Prices of Commodities, Classified According to Origin and Degree of Manufacture, by Yearly Averages, 1914-1930.

(1926=100.)

Item.	Numbers of Commodities.		1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.
	1913-25.	1926-29.								
Total, Raw and Partly Manufactured	107	232	66·5	72·7	85·1	113·8	120·7	131·5	155·7	107·5
Total, Fully and Chiefly Manufactured	129	276	65·5	71·9	84·5	113·7	127·6	132·5	156·8	116·7
Articles of Farm Origin (domestic and foreign) Field (grains, etc.)—										
(*a*) Raw and partly manufactured	46	98	65·9	78·2	90·3	130·8	133·0	145·3	176·9	101·8
(*b*) Fully and chiefly manufactured	41	69	64·4	73·5	85·6	119·8	136·6	140·5	175·8	110·5
(*c*) Total	87	167	63·8	73·1	85·3	122·2	131·3	139·3	169·5	103·4
Animal—										
(*a*) Raw and partly manufactured	25	41	76·7	75·5	87·5	114·7	134·6	146·6	147·1	104·7
(*b*) Fully and chiefly manufactured	28	49	67·0	72·8	85·8	112·2	126·0	141·4	146·3	113·1
(*c*) Total	53	90	72·5	74·4	86·3	112·6	129·9	143·0	146·6	109·6
Canadian Farm Products—										
1. Field (grains, etc.)	20	46	64·9	76·9	88·4	134·3	132·0	142·4	166·5	100·3
2. Animal	16	13	79·0	79·2	92·3	119·2	134·3	152·0	149·5	108·1
3. Total	36	59	69·1	77·6	89·6	129·8	132·7	145·3	161·4	102·6
Articles of Marine Origin—										
(*a*) Raw and partly manufactured	2	5	72·0	72·7	80·6	99·5	119·1	127·8	133·7	91·6
(*b*) Fully and chiefly manufactured	6	11	61·8	62·7	66·3	85·6	109·2	111·3	106·9	91·6
(*c*) Total	8	16	63·6	64·6	69·0	88·1	111·1	114·3	111·7	91·6
Articles of Forest Origin—										
(*a*) Raw and partly manufactured	16	31	61·8	57·1	66·3	80·0	89·3	111·4	156·9	123·4
(*b*) Fully and chiefly manufactured	5	21	55·5	54·8	56·4	72·4	88·6	104·2	146·4	148·6
(*c*) Total	21	52	60·3	56·5	64·0	78·2	89·1	109·6	154·4	129·4
Articles of Mineral Origin—										
(*a*) Raw and partly manufactured	18	57	61·6	68·4	83·3	99·4	103·8	105·3	125·2	111·5
(*b*) Fully and chiefly manufactured	49	126	67·4	71·8	87·1	113·7	123·2	121·7	142·6	123·3
(*c*) Total	67	183	64·2	68·3	81·4	102·6	111·3	112·4	131·4	117·6

Item.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
Total, Raw and Partly Manufactured	94·8	91·1	94·8	100·8	100·0	99·9	97·4	97·5	82·2
Total, Fully and Chiefly Manufactured	100·5	103·1	101·9	103·8	100·0	96·5	95·0	93·0	87·3
Articles of Farm Origin (domestic and foreign) Field (grains, etc.)—									
(*a*) Raw and partly manufactured	86·3	83·6	89·4	100·6	100·0	99·0	90·2	89·5	67·4
(*b*) Fully and chiefly manufactured	95·3	101·1	102·7	106·9	100·0	96·9	93·9	90·7	84·0
(*c*) Total	89·1	89·3	93·9	102·3	100·0	97·9	92·2	90·1	76·3
Animal—									
(*a*) Raw and partly manufactured	95·4	90·9	91·5	100·5	100·0	106·6	114·7	114·7	103·7
(*b*) Fully and chiefly manufactured	96·4	99·5	90·4	100·6	100·0	95·8	97·7	98·5	89·4
(*c*) Total	95·5	95·6	92·0	100·6	100·0	100·5	105·1	105·5	95·6
Canadian Farm Products—									
1. Field (grains, etc.)	81·3	73·3	82·6	98·1	100·0	99·9	92·6	93·8	70·0
2. Animal	98·8	94·9	96·9	105·4	100·0	105·7	114·3	112·5	102·9
3. Total	86·6	79·8	86·9	100·3	100·0	102·1	100·7	100·8	82·3
Articles of Marine Origin—									
(*a*) Raw and partly manufactured	90·2	99·5	95·8	94·4	100·0	96·7	91·5	96·8	86·9
(*b*) Fully and chiefly manufactured	92·2	80·1	91·8	99·1	100·0	101·5	104·0	108·5	98·4
(*c*) Total	91·9	83·6	92·5	98·3	100·0	100·2	100·6	105·3	95·3
Articles of Forest Origin—									
(*a*) Raw and partly manufactured	106·0	113·1	104·7	100·3	100·0	97·0	99·4	100·5	90·9
(*b*) Fully and chiefly manufactured	107·4	112·6	110·1	105·9	100·0	99·5	97·9	87·8	86·4
(*c*) Total	106·3	113·0	105·9	101·6	100·0	98·3	98·6	93·7	88·5
Articles of Mineral Origin—									
(*a*) Raw and partly manufactured	103·4	105·5	101·7	101·8	100·0	94·6	91·2	92·7	86·1
(*b*) Fully and chiefly manufactured	108·8	107·4	107·0	101·6	100·0	94·6	91·8	92·8	90·3
(*c*) Total	105·8	105·8	104·6	101·6	100·0	94·6	91·5	92·8	88·4

6.—Weighted Index Numbers of Wholesale Prices of Commodities, Classified According to Origin and Degree of Manufacture, by Months, 1926-1930.

(1926=100.)

Origin and Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Total Raw and Partly Manufactured -												
1926	106·0	103·6	101·7	102·2	99·7	99·2	99·8	97·6	97·3	98·3	97·4	98·2
1927	98·8	98·5	98·4	99·0	101·4	102·2	102·0	100·9	98·8	99·5	100·0	100·8
1928	100·3	99·4	101·4	102·4	100·9	98·3	96·2	93·7	93·8	94·9	94·4	94·0
1929	94·2	96·2	96·6	94·7	93·0	92·9	101·6	102·3	101·8	100·5	97·2	98·9
1930	97·6	94·0	89·8	90·3	88·5	84·6	80·0	77·1	74·0	73·3	70·4	67·3
Total Fully and Chiefly Manufactured—												
1926	103·0	102·1	101·5	100·5	99·8	100·1	99·7	99·3	98·6	98·1	97·4	97·5
1927	97·5	97·3	97·0	96·9	96·5	96·3	96·3	96·3	96·4	96·4	95·9	96·0
1928	95·6	95·4	95·7	95·7	95·3	95·3	94·8	95·0	95·1	94·6	94·2	93·8
1929	92·6	93·1	93·2	92·4	91·1	91·1	93·1	94·5	94·1	93·7	93·5	93·2
1930	92·6	92·3	91·3	90·0	88·9	87·2	85·8	85·4	84·8	83·9	82·8	81·5
I. Articles of Farm Origin (Domestic and Foreign)—												
A. Field (grains, fruits, cotton, etc.)—												
Raw and partly manufactured—												
1926	109·4	104·6	100·7	105·3	102·4	100·0	101·9	98·0	95·6	96·7	95·3	93·7
1927	92·9	93·7	95·4	97·1	104·5	107·1	106·3	104·0	97·9	96·8	96·9	95·5
1928	95·3	94·1	97·7	101·1	101·4	94·7	89·6	83·1	81·0	83·4	82·0	80·9
1929	83·0	87·7	86·4	83·7	80·4	81·2	99·9	100·7	98·4	94·3	89·0	90·1
1930	86·7	81·3	75·9	78·3	77·2	74·8	68·4	63·9	56·5	53·3	49·1	44·2
Fully and chiefly manufactured—												
1926	105·3	103·1	100·9	100·6	101·2	100·1	98·8	98·5	97·2	96·7	96·5	96·5
1927	96·6	97·0	95·9	96·2	97·4	98·5	98·5	97·5	96·7	96·7	96·2	96·5
1928	96·0	95·6	96·2	97·6	97·4	95·6	93·8	92·3	91·2	90·7	90·4	90·3
1929	89·6	90·5	89·6	88·3	86·7	86·7	90·5	93·8	94·2	93·8	92·9	92·7
1930	92·0	91·0	89·3	88·2	87·1	85·2	83·3	82·5	80·2	78·1	75·8	74·4
Total—												
1926	107·2	103·8	100·8	102·8	101·7	100·0	100·2	98·3	96·5	96·7	95·9	95·2
1927	94·9	95·5	95·7	96·6	100·7	102·5	102·1	100·5	97·2	96·7	96·5	96·0
1928	95·7	94·9	96·9	99·2	99·2	95·2	91·9	88·1	86·5	87·3	86·5	86·0
1929	86·6	89·2	88·1	86·2	83·8	84·2	94·8	97·0	96·1	94·0	91·1	91·5
1930	89·6	86·5	83·1	83·6	82·5	80·4	76·4	73·9	69·3	66·7	63·5	60·5
B. Animal—												
Raw and partly manufactured—												
1926	104·3	103·0	103·7	100·2	95·5	97·4	95·5	94·5	97·8	101·2	100·2	104·2
1927	108·4	106·3	105·8	106·8	102·9	102·1	102·1	102·3	106·2	109·5	111·8	117·6
1928	117·2	115·9	117·4	115·2	108·9	111·3	111·8	113·0	116·3	116·6	116·8	116·8
1929	113·3	112·8	114·9	113·4	114·0	112·1	111·9	113·0	115·6	118·4	115·3	119·8
1930	121·1	117·8	113·1	111·9	110·1	99·7	95·0	93·2	94·2	98·4	95·9	93·4
Fully and chiefly manufactured—												
1926	103·7	103·8	104·5	101·3	97·2	100·1	100·4	99·3	98·5	97·1	95·7	96·5
1927	97·0	96·3	97·2	96·7	94·5	93·1	93·0	94·8	96·8	97·1	96·3	96·2
1928	95·9	95·4	95·9	93·9	92·6	96·0	98·4	101·1	103·3	101·7	100·3	98·7
1929	98·9	99·9	101·0	100·4	97·3	96·9	98·6	99·5	97·3	97·1	97·4	96·7
1930	95·6	96·1	95·2	92·6	90·7	87·5	85·4	85·3	86·7	86·6	86·6	83·9
Total—												
1926	104·0	103·5	104·2	100·8	96·5	98·9	98·3	97·2	98·2	98·9	97·7	99·8
1927	101·9	100·6	101·9	101·1	100·1	97·0	96·9	97·1	100·9	102·5	103·1	105·5
1928	105·1	104·3	105·2	103·1	99·7	102·6	104·2	106·3	108·9	108·2	107·5	106·5
1929	105·1	105·5	107·0	106·0	104·5	103·5	104·4	105·4	105·2	106·3	105·2	106·7
1930	106·7	105·5	103·0	101·0	99·1	92·8	89·6	88·7	90·0	91·7	90·6	88·0

6.—Weighted Index Numbers of Wholesale Prices of Commodities, Classified According to Origin and Degree of Manufacture, by Months, 1926-1930—concluded.

(1926=100.)

Origin and Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
II. Articles of Marine Origin—												
Raw and partly manufactured—												
1926	91·0	92·7	92·3	90·8	104·1	101·1	101·4	98·7	101·3	106·6	108·9	111·9
1927	102·3	98·2	90·9	90·6	101·4	95·2	92·2	91·7	100·2	108·4	104·4	93·4
1928	92·7	92·7	75·1	74·7	95·8	77·4	80·0	91·6	105·3	106·1	116·5	113·5
1929	101·3	95·0	96·9	89·7	92·2	91·1	93·2	91·8	96·2	107·7	107·7	99·6
1930	101·7	98·1	83·3	80·0	82·0	86·0	83·0	70·9	87·1	97·9	90·8	81·7
Fully and chiefly manufactured—												
1926	101·0	97·7	99·1	100·4	98·8	98·8	100·2	100·8	100·5	100·9	101·4	100·7
1927	101·4	101·4	100·9	101·6	101·8	102·3	101·7	101·9	102·3	103·3	101·2	99·9
1928	100·0	103·0	101·3	102·7	102·9	103·9	103·8	103·6	105·2	107·7	107·1	105·6
1929	107·2	107·9	108·6	108·6	107·9	107·1	107·0	107·1	109·0	111·4	110·5	109·7
1930	106·0	105·0	102·7	100·3	98·5	98·1	97·1	94·7	92·9	95·0	92·5	89·0
Total—												
1926	98·3	96·3	97·3	97·8	100·2	99·4	100·5	100·2	100·7	102·4	103·4	103·7
1927	101·6	100·5	98·2	98·6	101·7	100·4	99·1	99·1	101·7	104·7	102·1	98·1
1928	98·0	100·2	94·2	95·1	101·0	96·7	97·4	100·3	105·2	107·3	109·6	107·7
1929	105·6	104·4	105·4	103·0	103·6	102·8	103·3	103·0	105·5	110·4	109·7	107·0
1930	104·8	103·1	97·4	94·8	94·0	94·8	93·3	88·3	91·3	95·8	92·0	87·0
III. Articles of Forest Origin—												
Raw and partly manufactured—												
1926	101·3	101·4	100·8	100·5	100·4	100·3	101·2	100·3	100·4	97·8	97·4	97·8
1927	97·9	96·9	97·0	96·4	96·0	95·9	97·9	97·7	97·6	97·4	97·2	97·2
1928	96·7	96·9	97·6	97·8	98·0	98·2	100·4	101·2	102·1	101·1	101·3	100·7
1929	100·3	100·7	102·7	102·0	101·1	100·8	100·7	100·8	100·1	98·8	98·9	99·2
1930	99·3	98·1	96·3	95·0	93·5	92·4	89·1	86·9	86·2	85·0	85·2	84·1
Fully and chiefly manufactured—												
1926	100·2	100·1	100·1	100·1	100·1	100·1	99·9	99·9	99·9	99·9	100·2	100·2
1927	99·8	99·5	99·5	99·5	99·5	99·5	99·5	99·5	99·5	99·5	99·5	99·6
1928	99·7	99·7	99·7	99·7	99·7	99·6	96·1	96·1	96·1	96·2	96·2	96·2
1929	87·8	87·8	87·8	87·8	87·8	87·8	87·7	87·7	87·7	87·7	87·7	87·7
1930	87·6	87·5	87·5	87·5	86·0	86·0	85·8	85·8	85·8	85·8	85·8	85·9
Total—												
1926	100·7	100·7	100·4	100·3	100·2	100·2	100·5	100·1	100·1	98·9	98·8	99·0
1927	98·9	98·3	98·3	98·1	97·9	97·8	98·8	98·7	98·6	98·5	98·4	98·5
1928	98·3	98·4	98·7	98·8	98·9	98·9	98·1	98·5	98·9	98·5	98·6	98·3
1929	93·6	93·8	94·7	94·4	94·0	93·9	93·8	93·8	93·5	92·9	92·9	93·1
1930	93·1	92·4	91·6	91·0	89·5	89·0	87·3	86·3	86·0	85·4	85·5	85·1
IV. Articles of Mineral Origin—												
Raw and partly manufactured—												
1926	102·8	103·2	102·6	98·4	97·6	98·8	99·3	99·4	99·1	98·6	98·5	101·7
1927	101·3	101·0	97·3	94·8	94·0	93·3	92·9	92·9	91·6	93·3	93·0	93·6
1928	92·0	92·0	91·9	91·5	90·4	90·6	90·1	90·5	90·8	91·0	91·2	92·2
1929	92·7	92·7	94·4	93·3	92·1	92·7	92·7	92·6	92·7	92·4	92·0	92·5
1930	92·2	91·9	90·4	89·5	85·6	84·8	84·3	84·2	84·3	83·2	81·9	81·7
Fully and chiefly manufactured—												
1926	99·7	100·2	100·4	99·9	100·0	100·2	100·2	100·2	100·2	100·3	99·0	98·9
1927	97·8	97·5	96·8	96·7	95·0	93·8	93·6	93·5	93·1	92·8	92·5	92·6
1928	91·9	91·9	91·7	91·4	91·3	90·9	91·1	91·7	91·7	91·9	92·1	92·3
1929	92·8	92·2	92·7	92·1	93·0	93·2	93·7	93·3	92·7	91·8	92·2	92·1
1930	92·2	92·0	91·8	91·1	90·8	90·3	89·9	89·8	89·6	89·2	88·7	88·2
Total—												
1926	101·1	101·5	101·4	99·2	98·9	99·6	99·8	99·8	99·7	99·5	98·8	100·2
1927	99·4	99·1	97·0	95·9	94·6	93·6	93·3	93·2	92·4	93·0	92·7	93·0
1928	91·9	91·9	91·8	91·4	90·9	90·8	90·7	92·2	92·3	91·4	92·3	91·5
1929	92·8	92·4	93·5	92·6	92·6	93·0	93·3	93·0	92·7	92·1	92·1	92·3
1930	92·2	92·0	91·2	90·4	88·5	87·8	87·4	87·3	87·2	86·5	85·7	85·3

Section 2.—Retail Prices of Commodities.

Collection of data and calculation of index numbers of retail prices and the cost of living are carried out in co-operation by the Dominion Bureau of Statistics (Department of Trade and Commerce) and the Department of Labour. Resultant series of index numbers are computed from different points of view. The computations of the Labour Department are designed to show changes in the cost of living for workingmen in cities. They are constructed from family budgets, principally a weekly family budget of staple foods, fuel and rent published monthly in the *Labour Gazette* since 1915 and annually since 1911; in addition, figures are included for clothing and sundry items and further data for fuel, light and rent. The Labour Department aims by this method to have a basis for computation that can be readily applied to the data for any given locality or district at any time, or for any class of labour, for instance, coal miners, who usually do not live in cities. Index numbers of retail prices and costs of living issued by the Bureau are constructed from a more general point of view, having for their object the measurement of the general movement of such prices and costs in the Dominion as a whole, and being so calculated as to make comparisons possible with other general index numbers constructed on similar principles, for example, the index of wholesale prices. Calculated as they are on the aggregative principle, *i.e.,* the total consumption of each commodity, the Bureau's index numbers afford an excellent measurement of changes in the average cost of living in the Dominion as distinguished from that of any particular class or section.

In the Bureau's index 1926 is taken as the base year and is represented by 100 to bring it into conformity with other series of index numbers shown in this report. The Labour Department uses 1913 as 100 for both cost of living and wages index numbers. As will be seen from Table **7,** the general cost of living was slightly lower again, having fallen from 100·0 in 1929 to 99·3 in 1930. This decline would have been considerably larger had it not been for the rentals index, which advanced from 103·3 to 105·9. Food and clothing were both appreciably below corresponding figures for 1929, while fuel and miscellaneous items recorded very little change.

Weighting.—The system of weighting involves weights for (1) individual items, (2) sub-groups and (3) group weights as shown in the description of group index numbers. The whole weighting system is based on estimated aggregate consumption in Canada. Separate index numbers are calculated for food, fuel and lighting, rent, clothing and sundries.

Food.—In the Dominion Bureau of Statistics index of the cost of living the food group includes 46 items, which are:—

Beef, sirloin steak
Beef, shoulder roast
Veal
Mutton
Pork, fresh
Pork, salt
Bacon
Ham
Fish, cod
Fish, finnan haddie
Fish, salmon
Lard
Eggs, fresh
Eggs, storage
Milk
Butter, dairy
Butter, creamery
Cheese, old and new
Bread
Soda biscuits
Flour
Rolled oats
Rice
Tapioca
Tomatoes
Peas
Corn
Beans
Onions
Potatoes
Apples
Prunes
Raisins
Currants
Jam
Peaches
Marmalade
Corn syrup
Sugar, granulated
Sugar, yellow
Coffee
Tea
Cocoa
Vinegar
Salt
Pepper

Prices are secured by circularizing about 900 grocers and 700 butchers, and from data collected by correspondents of the Department of Labour.

Average prices are calculated for more than 70 cities and these are converted to a Dominion average for each commodity. In computing the index each average price is weighted by the aggregate Canadian consumption in 1926, which is the base year used in the calculation. The group index number is weighted by 30 p.c. in order to arrive at the general index number.

Fuel and Lighting.—Information regarding items of this group is obtained by circularizing between 600 and 700 firms to obtain prices for coal, coke, wood, gas, and electricity. Separate index numbers are made for each type of fuel or lighting and these are weighted by a figure representing the importance of the sub-group in consumption. The weights are as follows: coal 53 p.c., wood 16 p.c., gas 9 p.c., electricity 13 p.c., coke 9 p.c. The group index number for fuel and lighting is in turn weighted by 6 p.c. in order to arrive at the general index.

For the purpose of constructing the coal index, Canada is divided into three parts, according to the kind of coal most used for domestic purposes. In the Maritimes, eastern bituminous is the typical coal fuel; for Ontario and Quebec it is anthracite and coke. Western domestic coal is used in the Prairie Provinces, and in British Columbia both western domestic and B.C. bituminous are extensively used. City prices are weighted by domestic consumption data to obtain provincial average prices, and these in turn are weighted by provincial domestic consumption in order to obtain the Dominion index.

Wood index numbers are constructed on similar principles with the exception that no account is taken of different consumption areas.

Gas index numbers include both natural and manufactured gas. In each case average monthly bills are weighted with consumption figures for each city. The resulting index numbers are then weighted by the national domestic consumption of natural and manufactured gas to obtain the final index.

Electricity index numbers are computed on the basis of monthly bills, representing average consumption in Canadian cities, weighted by the number of consumers in each city in 1926.

By-product coke has been taken as representative of all coke in making the index for this fuel. Over 75 p.c. of the coke manufactured in Canada in late years has been of that variety, and imported coke is almost exclusively of that kind.

Index numbers for coke are constructed by weighting city average prices with consumption figures, and the resulting aggregative index for each province is again weighted by provincial consumption in 1926 in order to arrive at the Dominion figure. No prices are included for the western provinces in calculating this index because their consumption is negligible.

Clothing.—For this group 55 clothing items are utilized as follows: men's 25, women's 23, and women's dress goods 7. In order to obtain prices for the commodities included, over 200 schedules are sent out quarterly.

Included in the above estimate of clothing returns as single units, are groups of schedules received from practically all the large Canadian departmental stores. Each store sends in 16 schedules of men's and women's clothing prices and in nearly all cases quotes on three grades of every article specified. Because departmental stores play such a large part in the determination of retail price levels, the returns received from them are given considerable weight in the compilation of the clothing index data. The following Canadian cities are covered by departmental store price schedules:—Montreal, Toronto, Winnipeg, Saskatoon, Regina, Calgary, Lethbridge and Vancouver.

In calculating the index number for this group separate indexes are first computed for the three sub-groups, men's clothing, women's clothing, and women's dress goods, and these are weighted by the figures 50 p.c., 33·3 p.c. and 16·7 p.c. respectively in order to arrive at the final group index.

Because of the difficulty of following clothing prices through a period of time of any length owing to changes in style and season, the index numbers for this group are calculated by the link relative method and afterwards tied up into chain relatives:—That is to say, index numbers are calculated for each commodity from current prices with immediately preceding prices as a base and the resulting index is multiplied by the last of the indexes on the 1926 base to make a continuous chain. Individual index numbers are then weighted by estimated consumption and combined into the final clothing index.

Rent.—In order to follow the trend of rentals, four types of dwelling are used, *viz.*, house, duplex, flat and apartment, and in each case, with the exception of duplex houses, information is utilized regarding both lower and medium grade dwellings. In all about 500 schedules are sent out semi-annually. The averages resulting from the compilation of these data are weighted as follows:—

Sub-group weights—

A. Grade of Dwelling—

Lower grade	40 p.c.
Medium grade	60 p.c.
	100 p.c.

B. Type of Dwelling—

	Lower Grade.	Medium Grade.
	p.c.	p.c.
House	84·6	73·3
Duplex	–	8·3
Flat	7·7	7·7
Apartment	7·7	10·7
	100·0	100·0

In calculating the general rental index, seven sub-indexes are made, corresponding to the type of dwellings noted above. These indexes are based upon averages of rental quotations for each city. After the city averages have been weighted, the sub-indexes are obtained by the aggregate method. The two sets of sub-group weights are then applied to obtain the final index. In order to calculate the total cost of living index numbers, that of the rental group is weighted by 20 p.c.

For a time, in calculating its rental index numbers, the Bureau took account of three grades of dwellings, lower, medium grade, and better grade dwellings. Also two sizes for each grade were included. The range of quotations for better grade dwellings was so wide, however, that it was not possible to arrive at average rental figures that were of any value. Experience proved also that quotations for two sizes of each item are not necessary, since the trend of rentals is shown accurately by quotations for one typical size.

Miscellaneous Group.—This group index is weighted by 26 p.c. to obtain the total Dominion cost-of-living index numbers. It contains many sub-groups, each of which is weighted to obtain the group index. Sub-groups and weighting data are seen in the following table:—

Sub-groups.	Number of Items.	Estimate of Average Number of Schedules.	Sub-group Weights.	Frequency of Calculation.
1. Medicine (drugs)	15	95	15	Annually.
2. Household effects	49	Textiles 70 Hardware 95 Crockery 20	40	Quarterly.
3. Furnishings	20	80	119	Quarterly.
4. Tramfares	2	60	59	Annually.[1]
5. Telephones	1	75	59	"
6. Amusements	1	55	90	"
7. Insurance	2	Data covering 14 Life and 44 Fire Co's	109	"
8. Tobacco	4	40	90	"
9. Newspapers	2	75	24	"
10. Books and Education	3	Periodicals 10 Publishers 3 Stationers 6	15	"
11. Doctor	3	35 (Provincial schedules of fees used)	71	"
12. Dentist	1	60	18	"
13. Hospitals	4	200	24	"
14. Laundry	4	60	14	"
15. Cleaning supplies	6	400	13	Quarterly.
16. Barber	3	65	27	Annually.
17. Toilet articles	10	95	16	"
18. Motor operation costs	2	Data covering motors operated by private owners, taxi companies, government fleets, civic fleets, etc	197	"
Totals	**132**	—	**1,000**	—

[1] Where any important changes in rates occur during the year the index is recalculated to measure the effect of the change.

Method of Construction.—Several of the miscellaneous groups having no special characteristics and all being calculated in the same manner, may be considered together. They are computed from link relatives in much the same manner as is done in the case of the clothing sub-groups. Relatives are made from the quotations of the individual firms or persons. These relatives are averaged for every city and then weighted to obtain provincial and Dominion averages of relatives. Finally, a Dominion average price is calculated for each commodity in the group, which bears the same relation to the last previous price as the average of relatives bears to 100. The bases of these calculated prices are averages of actual prices in 1926. Thus if the average of relatives for the post-base period were 110 and the base price $1 the new price would be $1.10. The prices calculated in this way are weighted with estimates of national consumption and from the aggregates of the resultant products Dominion link relatives are obtained. These are changed to chain relatives on a base 1926=100. The indexes for prices of medicine, tobacco, household furnishings, laundry, cleaning supplies, barbers' services, and toilet articles are constructed on this plan. So also are those for dentists' fees and theatre admission prices, but the arrangement of the data is slightly different for these two indexes. The principle involved in the construction of the sub-group indexes for textiles, hardware and crockery, which are combined to form the household effects index, is likewise the same as that described. The final index for household effects is obtained by weighting the three group indexes upon a consumption or replacement basis and then taking an average of these figures.

Tramfares.—The tramfares index is composed of two units, a city index and a radial index. In each case an average fare for the Dominion is reckoned by dividing total annual passenger revenue by the total number of passengers carried. From these average fares indexes are made, the two units being combined after weights representing city and radial passenger revenue for 1926 have been applied.

Telephones.—In compiling the telephones index the monthly charge for the typical residential phone of the locality is the unit upon which the number is based. Provincial indexes are made from aggregates of weighted city phone bills. A Dominion index is also struck by taking the average provincial bills and weighting them with a figure representing the number of provincial subscribers. The aggregate thus obtained is divided by a similar aggregate for 1926 and multiplied by 100, to produce the index in its final form.

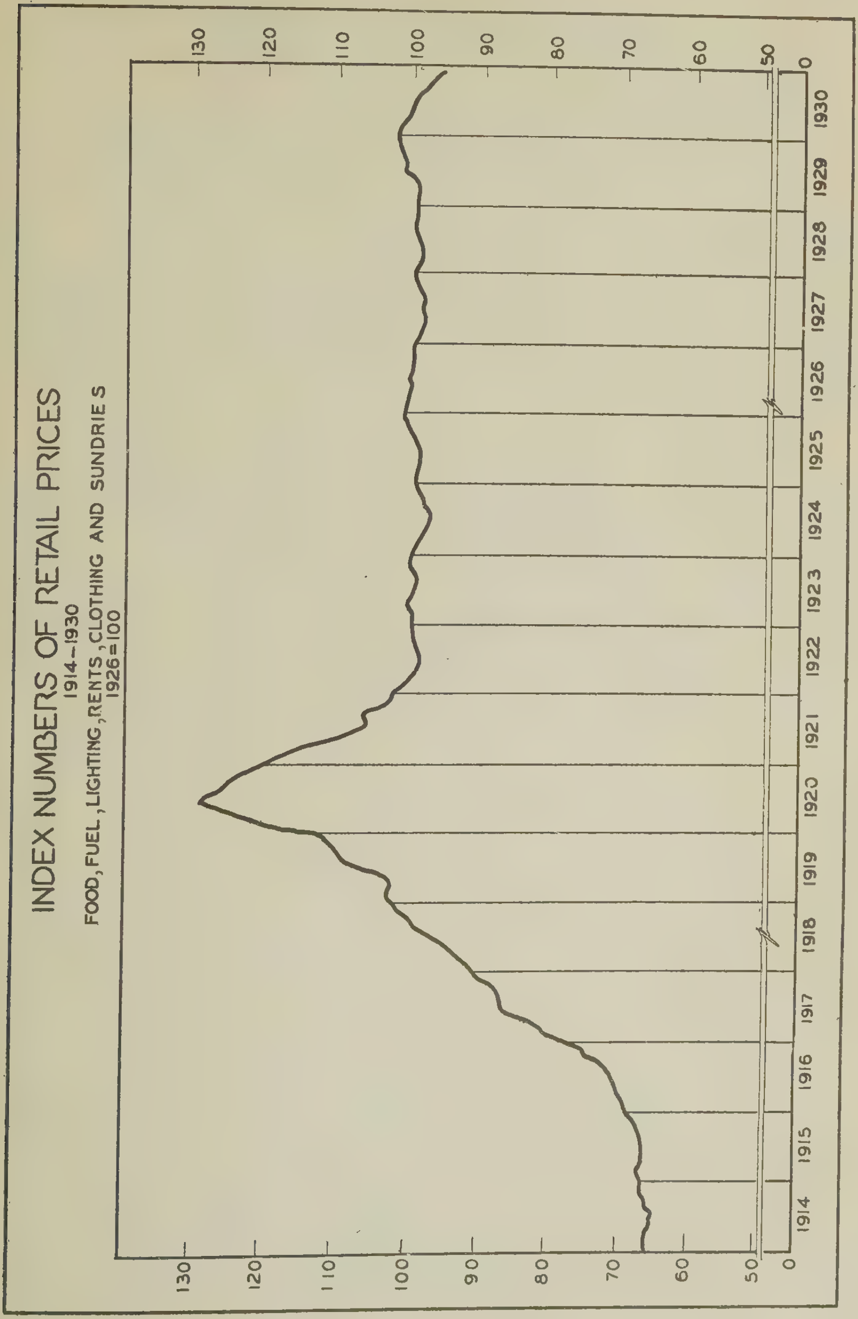
Insurance.—Changes in the cost of insurance are measured by a combination of two indexes, one of fire insurance rates and a second measuring the extent of changes in the level of life insurance premiums. The first is of simple construction, for there is practically no element other than that of straight risk entering into the cost of fire insurance. Its index is calculated from annual figures which show the percentage ratio of Canadian paid-in premiums to total risk taken. This cannot be done for life insurance because the element of risk is inextricably involved with profit-sharing, savings and investment, etc., which result in a great many different policy plans. Then too, risk is not a stable element as it may be considered for practical purposes in the case of fire insurance, varying as it does with the age of the policy-holder. Thus a more complicated index has been found necessary for life insurance.

Eighteen sub-group indexes have been made, taking into account variation in risk by including premium rates for three age groups centering around the 21st, 35th and 50th years of life and variation in types of policy groups which account for the greater part of life insurance written in Canada; namely, ordinary life, twenty-year life, and twenty-year endowment. Finally, a third distinction is made between premiums for participating and non-participating policies.

Data used for weighting take into consideration the amount of business done by the various companies quoted, the amount of insurance sold according to age groups noted, the relative importance of the types of policies included and the proportion of participating to non-participating business.

Newspapers.—The index of newspaper prices is formed from a sub-index based upon evening publications and another for morning issues. An average subscription cost is calculated from the city delivery price and the country mail rate for each paper. These averages are weighted by circulation figures for 1928 to produce an aggregate relative. The importance of the sub-groups in the final index is determined by the estimated value of the total paid-in subscriptions for the papers in each group.

Books and Educational Costs.—An index of the cost of books and other educational accessories is constructed from three sub-indexes of prices for books,


INDEX NUMBERS OF RETAIL PRICES
1914–1930
FOOD, FUEL, LIGHTING, RENTS, CLOTHING AND SUNDRIES
1926=100
130
120
110
100
90
80
70
60
50
0
1914
1915
1916
1917
1918
1919
1920
1921
1922
1923
1924
1925
1926
1927
1928
1929
1930

periodicals and stationery. Standard editions only are considered in the book index, while periodicals are chosen with regard to the volume of their Canadian circulation. In the third group, emphasis is placed upon such articles as note books and similar supplies needed by children in school.

Doctors' Fees.—The range of doctors' fees is represented by charges made for day visits, office consultations and ordinary confinement or obstetrical cases. An aggregative index is made, based in part upon data from schedules filled in by individual practitioners and also upon lists of fees published by provincial medical associations.

Hospital Charges.—In compiling the index of hospital fees each institution is weighted according to the number of patients accommodated, and provincial averages of fees are weighted according to population in order to get Dominion figures. The main index is made from four sub-groups which measure changes in the fees charged for public, semi-private, and private wards, and for the use of operating rooms.

Motor Operating Costs.—Operating cost index calculations are based upon accurate cost accounts compiled for the operating expenses of passenger cars used in civic and Dominion Government service throughout Canada. In addition, corroborative data pertaining to the trend of gasolene, tire, and accessory prices are secured as a check upon the cost compilations utilized.

7. Index Numbers of Canadian Retail Prices, 1914-1930, Changed to New Base, 1926=100.

Year.	Food Index.	Fuel Index.	Rent Index.	Clothing Index.	Sundries Index.	Total Index.
1914	68·9	64·5	62·2	63·9	66·2	66·0
1915	69·5	63·2	60·3	69·6	66·9	67·3
1916	77·5	64·5	60·9	79·7	70·2	72·5
1917	100·0	71·7	65·4	93·7	76·8	85·6
1918	114·6	78·9	69·2	109·5	86·1	97·4
1919	122·5	86·2	75·6	125·9	95·4	107·2
1920	141·1	102·6	86·5	153·2	104·0	124·2
1921	107·9	109·2	94·2	124·7	106·0	109·2
1922	91·4	104·6	98·1	105·7	106·0	100·0
1923	92·1	104·6	100·6	104·4	105·3	100·0
1924	90·7	102·0	101·3	101·9	103·3	98·0
1925	94·7	100·0	101·3	101·9	101·3	99·3
1926	100·0	100·0	100·0	100·0	100·0	100·0
1927	98·1	97·9	98·8	97·5	99·1	98·4
1928	98·6	96·9	101·2	97·4	99·0	98·9
1929	101·0	96·8	103·3	96·9	99·3	100·0
1930	98·7	96·4	105·9	93·9	99·4	99·3

8.—Index Numbers of Retail Prices, Rents and Costs of Services, by Months, 1928, 1929, 1930 and January-April, 1931 (1926=100).

Year and Month.	Food Index.	Fuel Index.	Rent Index.	Clothing Index.	Sundries Index.	Total Index Number.
1928.						
January	100·4	97·4	101·2	97·2	99·0	99·4
February	99·1	97·4	101·2	97·2	99·0	99·1
March	97·7	97·5	101·2	97·2	99·0	98·6
April	97·5	97·3	101·2	97·2	99·0	98·6
May	96·4	96·7	101·2	97·3	99·0	98·2
June	95·9	96·0	101·2	97·3	99·0	98·0
July	96·6	95·9	101·2	97·3	98·9	98·2
August	98·9	96·3	101·2	97·6	99·1	99·0
September	99·2	96·3	101·2	97·6	99·0	99·1
October	101·1	97·1	101·2	97·6	99·1	99·7
November	100·7	97·1	101·2	97·6	99·0	99·6
December	100·5	97·1	101·2	97·6	99·0	99·5
1928 Averages	**98·6**	**96·9**	**101·2**	**97·4**	**99·0**	**98·9**
1929.						
January	100·3	97·1	101·2	97·6	98·8	99·4
February	99·4	97·2	101·2	97·6	98·7	99·1
March	100·0	97·4	101·2	97·3	98·7	99·3
April	98·1	97·5	101·2	97·3	98·8	98·7
May	97·9	96·7	103·6	96·9	99·0	99·1
June	97·8	96·1	103·6	96·9	99·1	99·0
July	98·5	96·0	103·6	96·9	99·4	99·3
August	104·2	96·2	103·6	96·7	99·6	101·1
September	103·6	96·3	103·6	96·7	99·7	100·9
October	103·2	96·5	105·5	96·7	99·7	101·2
November	104·3	97·1	105·5	96·5	99·7	101·5
December	104·8	97·3	105·5	96·5	99·7	101·7
1929 Averages	**101·0**	**96·8**	**103·3**	**96·9**	**99·3**	**100·0**
1930.						
January	106·5	97·3	105·5	96·5	99·6	102·2
February	106·0	97·3	105·5	95·9	99·6	101·9
March	104·8	97·4	105·5	95·9	99·6	101·5
April	101·1	97·2	105·5	95·9	99·6	100·4
May	100·7	95·8	106·5	95·0	99·6	100·2
June	100·4	95·6	106·5	95·0	99·6	100·1
July	98·5	95·5	106·5	95·0	99·5	99·6
August	96·3	95·8	106·5	95·0	99·6	98·9
September	93·1	95·8	106·5	91·6	99·3	97·3
October	92·8	96·4	105·5	91·6	99·3	97·0
November	92·6	96·4	105·5	91·6	99·2	96·9
December	91·5	96·4	105·5	88·3	99·0	96·0
1930 Averages	**98·7**	**96·4**	**105·9**	**93·9**	**99·4**	**99·3**
1931.						
January	89·1	96·4	105·5	88·3	98·8	95·2
February	85·6	96·5	105·5	88·3	98·7	94·1
March	82·8	96·5	105·5	88·3	98·2	92·5
April	80·5	96·4	105·5	84·7	98·2	91·8

The Family Budget.—A family budget constructed by the Department of Labour appears regularly in the *Labour Gazette*. This budget material has been used by the Bureau to obtain the tables which follow.

Table **9** shows the average prices of items included in the family budget in 1913, 1920 and each of the years from 1923-30. The index numbers are weighted by the quantities used by the Department of Labour in computing their monthly family budget. Table **10** gives these group indexes by provinces. An examination of the tables reveals the course of the budget, consisting of food, fuel and lighting, and rent, over the period shown.

9.—Prices of a Family Budget of Staple Foods, Fuel and Lighting, and Rent, for Sixty Cities in Canada, 1913, 1920, 1923-1930.

Commodity.	Quantity.	Base, 1913.	1920.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
		$	$	$	$	$	$	$	$	$	$
Beef, sirloin steak............	1 lb.	0·222	0·389	0·283	0·280	0·285	0·294	0·308	0·345	0·363	0·356
Beef, chuck roast............	1 "	0·148	0·251	0·152	0·148	0·152	0·160	0·172	0·206	0·227	0·221
Veal, roast....................	1 "	0·157	0·274	0·182	0·179	0·182	0·193	0·203	0·226	0·245	0·239
Mutton, roast................	1 "	0·191	0·354	0·277	0·278	0·289	0·298	0·291	0·300	0·309	0·302
Pork, fresh, roast............	1 "	0·195	0·397	0·264	0·240	0·275	0·302	0·282	0·273	0·300	0·298
Pork, salt mess..............	1 "	0·176	0·362	0·252	0·231	0·254	0·278	0·265	0·261	0·273	0·271
Bacon, breakfast.............	1 "	0·247	0·559	0·394	0·337	0·385	0·431	0·393	0·379	0·393	0·399
Lard, pure leaf...............	1 "	0·192	0·380	0·231	0·220	0·242	0·246	0·221	0·221	0·219	0·212
Eggs, fresh....................	1 doz.	0·337	0·709	0·442	0·439	0·486	0·466	0·487	0·478	0·475	0·457
Eggs, storage.................	1 "	0·281	0·608	0·370	0·368	0·417	0·398	0·424	0·412	0·403	0·394
Milk............................	1 qt.	0·086	0·151	0·117	0·121	0·119	0·118	0·119	0·121	0·123	0·123
Butter, dairy..................	1 lb.	0·292	0·631	0·399	0·387	0·389	0·406	0·415	0·417	0·428	0·368
Butter, creamery............	1 "	0·339	0·696	0·451	0·435	0·439	0·448	0·463	0·461	0·470	0·405
Cheese, old....................	1 "	0·205	0·406	0·326	0·301	0·312	0·318	0·310	0·329	0·334	0·318
Cheese, new..................	1 "	0·191	0·383	0·326	0·301	0·312	0·318	0·310	0·329	0·334	0·318
Bread, plain white...........	1 "	0·041	0·093	0·067	0·069	0·078	0·076	0·077	0·077	0·078	0·075
Flour, family..................	1 "	0·032	0·079	0·044	0·045	0·057	0·053	0·053	0·052	0·051	0·047
Rolled oats....................	1 "	0·044	0·084	0·055	0·056	0·061	0·058	0·061	0·063	0·064	0·061
Rice, good medium..........	1 "	0·057	0·164	0·104	0·105	0·109	0·110	0·108	0·105	0·104	0·101
Beans, handpicked...........	1 "	0·062	0·117	0·087	0·084	0·083	0·079	0·081	0·089	0·115	0·094
Apples, evaporated..........	1 "	0·120	0·286	0·200	0·194	0·204	0·200	0·194	0·210	0·213	0·206
Prunes, medium.............	1 "	0·119	0·270	0·185	0·160	0·156	0·158	0·148	0·135	0·141	0·155
Sugar, granulated............	1 "	0·059	0·197	0·117	0·109	0·085	0·079	0·083	0·079	0·073	0·068
Sugar, yellow.................	1 "	0·055	0·185	0·112	0·104	0·081	0·075	0·079	0·075	0·069	0·065
Tea, black.....................	1 "	0·356	0·644	0·656	0·700	0·714	0·719	0·716	0·713	0·704	0·628
Tea, green.....................	1 "	0·372	0·672	0·656	0·700	0·714	0·719	0·716	0·713	0·704	0·628
Coffee..........................	1 "	0·376	0· 08	0·539	0·550	0·604	0·612	0·612	0·607	0·604	0·572
Potatoes.......................	1 pk.	0·150	0·658	0·252	0·270	0·276	0·436	0·317	0·258	0·291	0·355
Vinegar, white wine..........	1 pt.	0·064	0·080	0·075	0·080	0·080	0·080	0·080	0·080	0·080	0·080
All Foods, Weekly Budget[1].	$	**7·337**	**15·99**	**10·525**	**10·313**	**10·813**	**11·211**	**11·001**	**11·037**	**11·34**	**10·96**
Starch, laundry..............	1 lb.	0·096	0·144	0·122	0·122	0·124	0·124	0·123	0·123	0·123	0·123
Coal, anthracite.............	1 ton	8·80	17·04	17·989	17·052	16·833	17·392	14·464	16·272	16·192	16·112
Coal, bituminous............	1 "	6·19	12·38	11·555	10·707	10·249	10·311	10·208	10·113	10·08	10·064
Wood, hard, best.	1 cord	6·80	13·09	12·764	12·485	12·280	12·195	12·128	12·077	12·208	12·176
Wood, soft.....................	1 "	4·90	10·14	9·512	9·209	8·979	8·947	8·96	8·937	8·80	8·672
Coal oil.........................	1 gal.	0·237	0·365	0·307	0·306	0·304	0·308	0·314	0·311	0·311	0·309
Rent, 1 month...............	$	19·00	24·80	27·86	27·79	27·537	27·43	27·44	27·67	27·92	28·16
Grand Totals, Weekly Budget[1]........................	$	**14·024**	**25·908**	**21·068**	**20·693**	**21·063**	**21·471**	**21·201**	**21·269**	**21·61**	**21·29**

[1] Totals for "all foods" and "grand totals" are based upon the estimated weekly family consumption of the commodities specified in the table.

10.—Index Numbers of a Family Budget of Staple Foods, Fuel and Lighting, and Rent in Canada, by Provinces, 1920, 1923-1930.

(Dominion Average for 1913=100.)

STAPLE FOODS.

No.	Province.	1920.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
1	Nova Scotia	221·0	148·8	144·1	149·5	154·8	148·8	149·3	153·5	151·6
2	Prince Edward Island	193·4	130·0	128·9	134·8	142·3	136·6	134·3	139·1	140·4
3	New Brunswick	214·1	146·6	144·7	147·7	155·9	150·1	149·0	151·4	149·1
4	Quebec	206·7	137·0	132·2	139·3	144·9	139·4	139·2	142·8	138·8
5	Ontario	225·2	142·7	139·5	145·0	154·2	150·8	151·0	153·8	148·7
6	Manitoba	220·2	136·4	133·1	141·7	142·2	141·6	145·6	151·2	144·5
7	Saskatchewan	215·6	141·1	137·7	148·2	148·6	150·7	152·3	158·3	149·1
8	Alberta	218·0	138·2	139·4	149·9	147·5	148·2	151·1	158·9	150·9
9	British Columbia	232·0	155·5	154·1	164·6	163·1	163·2	164·6	170·4	164·5

FUEL AND LIGHTING.

No.	Province.	1920.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
1	Nova Scotia	170·6	163·8	160·9	157·1	155·5	150·8	152·4	151·8	150·3
2	Prince Edward Island	181·8	196·6	179·1	174·3	167·0	162·8	152·4	154·5	153·9
3	New Brunswick	185·3	174·8	169·5	164·9	168·1	164·4	161·8	160·2	160·7
4	Quebec	195·0	183·8	175·4	172·8	177·5	175·4	174·9	174·9	173·3
5	Ontario	198·5	194·1	183·0	179·6	182·2	179·1	177·0	177·0	175·9
6	Manitoba	206·3	203·9	195·3	188·5	184·8	183·2	184·8	189·5	190·1
7	Saskatchewan	210·3	201·7	195·2	186·4	181·2	182·7	183·8	181·2	174·9
8	Alberta	161·6	134·8	122·5	128·3	126·2	122·0	108·4	100·5	100·5
9	British Columbia	182·6	156·1	152·4	147·1	147·6	147·1	147·0	147·6	147·6

RENT.

No.	Province.	1920.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
1	Nova Scotia	107·7	117·7	118·5	117·5	117·9	117·9	117·9	117·9	121·1
2	Prince Edward Island	84·5	121·7	123·8	122·5	118·5	118·5	118·5	122·3	123·8
3	New Brunswick	119·8	138·7	142·1	142·1	142·1	142·1	142·1	142·1	139·4
4	Quebec	93·0	118·0	121·1	120·8	120·8	121·7	122·7	123·2	125·9
5	Ontario	154·8	151·7	154·4	152·8	151·8	151·2	153·1	154·3	155·8
6	Manitoba	159·6	181·2	184·2	184·2	184·2	184·2	184·2	184·2	184·2
7	Saskatchewan	178·1	184·5	187·6	184·2	184·2	184·2	184·2	184·2	185·7
8	Alberta	154·7	157·7	150·8	148·0	151·8	152·4	151·8	157·9	161·7
9	British Columbia	119·3	132·1	134·3	135·4	135·8	136·6	138·1	139·8	140·8

GRAND TOTAL.

No.	Province.	1920.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
1	Nova Scotia	175·3	140·1	137·4	139·4	142·1	138·4	138·9	141·0	140·8
2	Prince Edward Island	154·5	136·2	133·7	135·6	137·3	134·0	131·2	135·3	136·3
3	New Brunswick	177·8	147·7	146·9	147·9	152·7	149·1	148·2	149·2	147·1
4	Quebec	166·0	136·7	134·1	137·4	141·0	138·1	138·3	140·3	138·8
5	Ontario	187·1	152·5	150·2	152·2	156·8	154·6	155·0	156·9	154·5
6	Manitoba	197·4	160·7	158·6	162·2	161·9	161·5	163·8	167·[illegible]	163·9
7	Saskatchewan	202·1	163·9	162·1	165·3	164·8	166·2	167·2	170·0	164·7
8	Alberta	188·6	144·1	140·6	146·0	145·8	145·9	145·3	150·4	147·4
9	British Columbia	186·6	147·2	146·9	152·0	151·5	151·5	153·0	156·7	153·9

Section 3.—Index Numbers of Security Prices.

Many important advances have recently been made in the direction of improving the technique of making index numbers of security prices. The chief of these are: first, the computation of index numbers to serve different purposes; secondly, weighting of the index numbers so that they will accurately represent the market—an accurate index of market trends cannot be made on the basis of a simple average of market quotations or on any system which does not consider weighting; thirdly, using weighted average prices of individual securities rather than the average of high and low quotations or closing quotations. This last point is of considerable importance, because the average price at which a stock sells on a day's market frequently differs widely from the average of its high and low quotations or its closing price.

In the revised index numbers of security prices which have recently been issued by the Bureau full use of the improvements mentioned has been made, and these index numbers are now in line with the most advanced technique pertaining to the making of such indexes. In the revision the base of the calculations was also changed. The basic period is now the year 1926, that is, prices prevailing in that year are taken as 100 and subsequent price movements are expressed as a percentage. The year 1926 was chosen as the base, in conformity with the tendency which now prevails to substitute a post-war for a pre-war base. This year was also chosen in order to enable comparisons to be made with important indexes in the United States.

Two series of index numbers are now published by the Bureau on a weekly basis, *viz.*, traders' and investors' indexes. (See Tables **11** and **12**.) As will be apparent, these measure movements of an entirely different character. The traders' index is based upon the prices of the twenty-five best selling industrial and public utility common stocks sold on the Montreal and Toronto exchanges each week. This traders' index measures the trend of gains or losses for an "average" trader on the Montreal and Toronto stock exchanges, who buys and sells the leading common stocks in the same proportion as they are traded in the market as a whole, and who turns over his investments every week. The investors' index, on the other hand, measures the trend of values for the investor who buys a list of stocks and holds them over a long period of time.

Investors' Index Numbers of Common Stocks, 1913 to 1930.—Monthly figures for the investors' index number of common stocks, computed by the Dominion Bureau of Statistics on the basis 1926=100, have been carried back to 1913. The index falls into two parts, *viz.*, the period subsequent to 1926 and the earlier period. For the period 1913 to 1926 those stocks were used which were included in the index number previously issued on the 1913 base, *viz.*, 31 industrials, 10 public utilities and 9 banks, or 50 stocks in all. In the subsequent period the list of stocks included in the monthly index numbers was enlarged and now contains 98 industrial, 18 domestic utilities, 8 companies located abroad and 8 bank stocks. Despite the difference in the number of stocks included, the trend of stock prices is adequately shown throughout the whole period. The larger number of stocks included in the revised index number, though adding little to the accuracy of the general index, gives more complete information regarding various groups of stocks traded on Canadian exchanges.

Banks are included in the monthly index numbers but not in the weekly, the trading in such securities not being, as a rule, sufficiently important to warrant their inclusion in a weekly index. In any case, their inclusion does not affect the general index by more than a point or two.

11.—Investors' Index Numbers of Common Stocks, by Months, 1930.

NOTE.—For earlier figures, see p. 782 of the 1931 Year Book, p. 784 of the 1929 Year Book, and pp. 796-800 of the 1927-1928 Year Book.

Month.	Types and Numbers of Securities.										
			Industrials.								
	Grand Total.	Banks Total.	Industrials Total.	Iron and Steel, and Iron and Steel Products.	Pulp and Paper.	Milling.	Oils.	Textiles and Clothing.	Food and Allied Products.	Beverages.	Miscellaneous.
	135	8	100	16	11	5	4	9	23	11	21
1930.											
January	155·7	120·3	209·1	232·5	63·4	174·7	286·6	78·9	140·0	85·8	287·7
February	155·3	120·4	205·5	224·8	63·3	171·9	263·0	76·2	136·9	79·2	305·2
March	157·6	118·3	210·2	221·8	64·9	156·2	270·8	72·4	132·5	77·5	317·4
April	166·5	118·6	220·9	233·5	69·9	163·6	296·5	72·3	145·3	87·4	316·4
May	152·1	117·7	196·3	221·1	62·2	158·8	265·0	72·0	142·6	88·5	266·7
June	134·7	115·2	165·4	192·1	56·1	149·7	222·0	67·3	132·9	77·9	215·4
July	132·0	113·1	162·2	193·0	52·9	138·3	217·1	68·0	125·0	77·1	213·0
August	125·1	113·3	153·1	189·1	49·4	129·3	208·6	68·2	123·1	73·3	193·8
September	130·8	117·6	160·1	186·8	45·3	128·7	226·3	72·9	122·3	72·1	204·2
October	111·3	113·3	129·2	146·8	30·6	109·0	185·1	64·5	108·8	63·3	161·7
November	109·6	109·3	129·0	145·9	27·2	107·3	190·0	62·7	104·9	61·1	160·0
December	103·1	108·2	120·3	142·2	25·0	112·3	178·9	65·0	105·0	59·2	141·2

Month.	Types and Numbers of Securities.						
	Public Utilities.				Companies Abroad.		
	Public Utilities Total.	Transportation.	Telephone and Telegraph.	Power and Traction.	Companies Abroad Total.	Industrial.	Utility.
	18	2	2	14	9	1	8
1930.							
January	133·3	123·0	115·7	151·6	130·3	131·4	136·9
February	141·0	139·9	117·5	151·6	121·0	117·8	131·6
March	137·4	132·4	115·8	151·2	133·2	128·8	145·8
April	143·7	132·7	115·3	164·9	150·7	139·8	171·4
May	133·3	127·9	113·3	147·0	139·8	128·1	160·7
June	124·2	122·5	111·6	132·3	123·8	114·6	141·2
July	122·3	117·8	111·3	132·6	119·5	113·3	133·4
August	116·0	109·2	112·6	127·0	110·4	112·0	115·2
September	123·1	112·4	114·2	139·3	112·2	110·2	121·1
October	112·7	107·6	111·3	121·6	86·6	89·3	88·8
November	109·5	105·7	110·1	116·6	85·8	88·6	87·7
December	104·7	96·7	108·2	115·6	76·1	80·6	75·6

12.—Traders' Index Numbers of Prices and Volume of Sales, Monthly Averages, January, 1928-May, 1931.

(1926=100.)

Note.—The Traders' Index measures the trend of gains or losses for an "average" trader, on the Montreal and Toronto stock exchanges, who buys and sells in the same proportion as stocks are traded in the market as a whole and turns over his investments every week.

Column 1.—Weighted index numbers of the prices of the 25 best selling Industrial and Public Utility common stocks on the Montreal and Toronto Exchanges.

Column 2.—Index numbers of the total money value of the stocks included in 1 above, and traded during the month.

Month.	1928.		1929.		1930.		1931.	
	Price.	Value.	Price.	Value.	Price.	Value.	Price.	Value.
January	317·7	282·9	1,039·5	475·3	828·9	56·4	609·8	3·4
February	322·0	230·3	1,125·8	280·3	864·3	51·9	660·2	5·8
March	338·5	230·6	1,057·3	242·4	898·6	56·1	714·3	4·1
April	379·5	262·0	962·4	128·4	1,010·9	93·1	621·5	·7
May	417·1	256·0	955·1	113·4	921·2	53·3	495·2	·4
June	388·0	184·3	968·0	82·2	821·3	52·7	–	–
July	391·2	108·0	1,032·1	86·0	768·6	10·2	–	–
August	391·3	127·8	1,170·1	212·2	731·3	13·7	–	–
September	470·6	166·4	1,230·4	179·2	778·4	20·3	–	–
October	553·2	362·4	1,125·8	269·5	618·1	25·4	–	–
November	714·1	440·1	769·2	119·4	612·7	7·4	–	–
December	809·7	256·8	786·7	55·8	596·5	5·6	–	–

Weighted Index Numbers of Mining Stocks.—A weighted index number of mining stocks is computed by the Dominion Bureau of Statistics on the basis 1926=100. Mines of a semi-industrial nature, such as International Nickel and Consolidated Mining and Smelting Company, do not appear here but are included in the Bureau's Investors' index of common industrial and public utility stocks.

Stocks included in this index are confined to producing mines, those which are about to pass into this category, and a couple which have large interests in other producing mines. Each stock is weighted by the number of shares outstanding.

Index numbers are calculated for the total stocks and for three groups, *viz.*, gold stocks, gold-copper stocks, and silver and miscellaneous stocks. The gold stocks are Premier, Coniaurum, Dome, Hollinger, McIntyre, Vipond Consolidated, Kirkland Lake Mines, Lake Shore, Sylvanite, Teck-Hughes and Wright Hargreaves. Gold-copper stocks include Amulet and Noranda. Silver and miscellaneous stocks are Nipissing, Coniagas and Mining Corporation. The term "silver and miscellaneous" is used because all four stocks have important interests other than silver and two of the four are not now producing silver.

Excepting for the early months of the year, the course of the general index of mining stocks in 1930 was steadily downward. From 78·9 in January, they rose to 86·1 in February and declined thereafter to 59·2 in December. The copper stocks index fell from 191·4 in January to 69·1 in December and silver and miscellaneous from 49·6 in January to 25·1 in October after which they rose to 30·0 in December. Gold stocks were much more stable, the index fluctuating between 57·4 and 64·5.

13.—Weighted Index Numbers of Mining Stocks, by Months, 1929-1930.

(1926=100.)

Year and Month.	Types and Numbers of Stocks.			
	Gold. 11	Gold-Copper. 2	Silver and Miscellaneous. 4	Total. 17
1929.				
January	85·4	334·7	80·0	125·7
February	84·4	323·6	85·3	123·7
March	84·7	301·4	82·5	120·3
April	82·9	267·2	75·4	112·7
May	77·4	272·4	72·7	108·9
June	72·1	267·5	69·8	103·9
July	73·2	298·2	69·4	109·6
August	74·1	325·9	70·5	114·8
September	63·6	317·0	65·3	104·8
October	59·3	247·8	59·8	90·1
November	54·2	185·0	55·0	75·7
December	54·3	178·1	51·3	74·5
1930.				
January	57·4	191·4	49·6	78·9
February	62·9	209·3	50·1	86·1
March	62·5	206·3	47·8	85·2
April	63·6	189·8	43·5	83·3
May	64·5	144·6	35·8	76·3
June	64·3	126·3	32·2	73·1
July	61·3	115·3	28·1	68·7
August	61·2	111·6	29·4	68·0
September	62·6	108·4	28·5	68·7
October	59·7	76·2	25·1	61·3
November	56·9	83·3	28·3	60·5
December	57·8	69·1	30·0	59·2

Section 4.—Prices of Services.

A study of the prices of services sheds considerable light on the cost of living as such services are a considerable item in the average family budget. Information with regard to the trend of street car fares, of rates for manufactured and natural fuel gas, of domestic electric light rates and of telephone charges was published on pp. 801-4 of the 1927-28 Year Book. Later information shows that the prices of manufactured fuel gas have shown a downward tendency, the Dominion index number for 1929 being 97·6, as compared with 100·0 in 1926. The index number of the price of natural fuel gas also declined from 100·0 in 1926 to 92·3 in 1929. On the other hand, telephone rates have shown a distinct increase, the Dominion index number for domestic telephone rates having risen from 100·0 in 1926 to 107·2 in 1929. Again, the business telephone rate has risen from 100·0 in 1926 to 118·2 in 1929. Additional information and details by provinces will be found on pp. 202-12 of the Bureau of Statistics' Annual Report on Prices and Price Indexes, 1913-29.

Hospital Charges.—In view of discussions of the increased cost entailed by illness and hospital treatment, special investigations of hospital charges are now made annually and the results are given as Dominion averages in the following table. In general, this shows that hospital charges have increased approximately 90 p.c. since 1913, except for operating room charges, which have increased only about 60 p.c. At the same time, the cost of maintaining patients in hospitals has increased by about 110 p.c. Since the general cost of living in Canada has increased only from 50 to 60 p.c., it may be inferred that patients in hospitals have an improved standard of living and of comfort as compared with the conditions before the war.

The detailed results of this investigation, including the statistics by provinces, are to be found on pp. 203-6 of the Bureau of Statistics' Annual Report on Prices and Price Indexes, 1913-29.

11.—Average Daily Hospital Charges in Canada and Index Numbers thereof, 1913 and 1917-1929.

(1913=100 for Index Numbers.)

Item.		1913.	1917.	1918.	1919.	1920.	1921.
Public Ward	$	·99	1·19	1·32	1·47	1·54	1·67
Index Number		100·0	119·4	134·4	149·1	156·9	170·5
Semi-private Rooms	$	1·57	1·79	2·03	2·27	2·44	2·63
Index Number		100·0	114·7	130·9	145·8	156·3	168·6
Private Rooms	$	2·68	3·00	3·23	3·68	4·05	4·45
Index Number		100·0	111·8	120·8	138·2	151·4	167·4
Operating Room	$	5·16	5·53	5·94	6·71	7·00	7·15
Index Number		100·0	107·4	115·4	130·8	137·0	140·1
Cost of Maintenance per head	$	1·68	2·14	2·47	2·72	3·08	3·22
Index Number		100·0	128·8	148·8	163·7	187·2	195·6

Item.		1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
Public Ward	$	1·71	1·73	1·77	1·78	1·83	1·86	1·96	2·03
Index Number		175·0	177·1	180·4	181·2	183·2	185·2	196·9	203·9
Semi-private Rooms	$	2·69	2·73	2·74	2·84	2·82	2·83	2·85	2·87
Index Number		173·1	175·6	176·1	182·2	185·2	186·3	187·8	189·1
Private Rooms	$	4·49	4·52	4·58	4·92	5·07	5·14	5·25	5·23
Index Number		169·1	170·3	172·3	185·9	188·5	191·1	195·3	194·5
Operating Room	$	7·24	7·64	7·87	7·97	8·17	8·31	8·36	8·37
Index Number		141·8	148·9	153·0	155·1	156·7	159·1	160·1	160·3
Cost of Maintenance per head	$	3·12	3·17	3·25	3·26	3·48	3·45	3·49	3·62
Index Number		189·7	192·5	197·1	198·3	201·9	199·7	202·3	210·4

Section 5.—Index Numbers of Interest Rates.

Few economic statistics are of more significance than the net rates of interest paid on absolutely the safest securities, such as government bonds maturing on a fixed and definite date. Other interest rates naturally grade upward from the rates which the safest of possible borrowers has to pay, and from the fluctuations of that price an idea may be obtained as to the relation between the supply of, and the demand for, funds for investment.

Prior to the war the funded debt of the Dominion was entirely held outside the country, there being no home market for Canadian Government bonds. Since about the beginning of the century, however, the province of Ontario, the wealthiest and most populous of the provinces of the Dominion, has done its financing largely in Canada itself, and the fluctuation in the rate of yield of Province of Ontario bonds is thus the best long-term indicator of net interest rates in the Dominion. These yields, compiled originally by Wood, Gundy and Co., of Toronto, and furnished by that firm to the Bureau of Statistics, have been recalculated as index numbers on a 1926 base and are shown in Table **15,** a particularly interesting feature being the decline in the interest rates index from the high point of 129·4 in October 1920 to 87·7 in February of 1928. Since the latter date, the scarcity of funds for this type of investment forced the index number up to 104·4 in May and September 1929, from which point it gradually declined to 92·9 in September 1930. In January and February 1931 it had risen to 95·0 but in March and April it declined to 92·9 and in May to 91·9.

15.—Index Numbers of Interest Rates in Canada, Calculated from Yields of Ontario Bonds, 1900-1931.

(Base 1926=100.)

Month.	1900.	1901.	1902.	1903.	1904.	1905.	1906.
January	73·1	77·9	79·3	78·5	78·5	78·5	76·2
April	74·1	78·5	79·3	78·5	78·5	75·2	76·2
June	75·2	78·7	79·3	78·5	79·3	74·1	76·2
October	77·2	78·7	79·3	78·5	79·3	75·2	76·8
December	77·7	79·3	78·5	78·5	78·3	76·2	77·2
	1907.	1908.	1909.	1910.	1911.	1912.	1913.
January	78·3	88·7	82·5	81·4	83·5	83·5	88·7
April	81·4	87·7	81·4	82·5	81·0	85·6	89·8
June	85·6	86·6	80·4	82·5	81·0	86·6	90·8
October	87·7	85·6	80·4	82·5	81·4	87·7	91·9
December	88·7	83·5	81·4	83·5	83·5	88·7	91·9
	1914.	1915.	1916.	1917.	1918.	1919.	1920.
January	91·9	88·7	109·6	100·2	125·3	121·1	120·0
April	90·8	91·9	110·6	109·6	125·3	116·9	121·1
June	88·7	93·9	109·6	114·8	126·3	112·7	125·3
October	88·7	104·4	104·4	123·2	125·3	116·9	129·4
December	88·7	109·6	102 3	125·3	125·3	120·0	128·4

Month.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
January	125·3	116·9	112·7	106·5	99·2	100·2	97·1	89·8	97·1	102·3	95·0
February	125·3	114·8	110·6	106·1	100·2	100·2	97·1	87·7	98·1	102·3	95·0
March	125·3	113·8	109·6	106·1	100·2	100·2	96·0	88·7	101·3	101·3	92·9
April	125·3	112·7	107·5	106·1	100·2	100·2	95·2	88·7	103·3	101·3	92·9
May	126·3	112·7	107·5	106·1	99·2	100·2	95·0	90·8	104·4	101·3	91·9
June	126·3	112·7	107·5	105·8	99·2	100·2	95·0	91·9	103·3	100·8	–
July	128·4	112·7	107·5	103·5	99·2	100·2	95·0	93·9	103·3	100·2	–
August	128·4	112·7	107·5	99·2	99·2	100·2	95·0	96·0	102·3	96·0	–
September	127·3	111·7	107·5	99·2	99·2	100·2	95·0	96·0	104·4	92·9	–
October	126·3	111·7	107·9	100·2	100·2	100·2	93·9	95·0	103·3	93·9	–
November	119·4	112·7	107·3	99·2	100·2	99·2	93·3	95·0	103·3	93·9	–
December	119·4	113·2	107·3	99·2	100·2	99·2	90·8	96·0	102·3	93·9	–

Section 6.—Index Numbers of Import and Export Valuations.

Index numbers of import and export valuations have been computed by the Dominion Bureau of Statistics for the calendar years 1920 to 1929 and are shown in Table **16.** Fifty export and 60 import commodities are included in the calculations. The year 1913 has been taken as the base. Index numbers were calculated on the aggregative principle and both an individual and a group system of weighting has been used on the basis of quantities imported or exported.[1]

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[1] For list of commodities included see Appendix A, "Prices and Price Indexes, 1913-1926".

16.—Index Numbers of Export and Import Valuations, calendar years 1921-1929.

(1913=100.)

EXPORTS.

Group.	Number of Items.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
Vegetables and Their Products	14	159·3	129·3	122·2	133·1	155·2	150·9	143·5	132·1	139·1
Animals and Their Products	11	150·4	136·2	142·0	136·3	155·1	148·0	160·3	155·7	155·7
Fibres, Textiles and Textile Products	2	139·0	117·1	134·2	161·1	165·8	140·3	126·7	143·7	126·0
Wood, Wood Products and Paper	8	216·3	168·3	178·0	173·3	167·9	162·4	158·5	156·4	153·9
Iron and Its Products	4	93·8	107·9	90·8	88·3	83·8	82·9	92·0	81·0	82·9
Non-Ferrous Metals and Their Products	6	130·8	123·6	121·2	123·3	132·9	129·4	120·0	121·1	126·6
Non-Metallic Minerals and Their Products	2	256·3	189·2	190·1	181·1	169·9	172·8	173·3	172·8	177·0
Chemicals and Allied Products	3	125·7	117·0	118·2	109·0	109·6	107·6	97·0	87·4	85·5
Totals, Exports	50	164·8	137·8	136·8	139·6	151·7	147·0	144·0	137·6	136·9

IMPORTS

Group.	Number of Items.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
Vegetables and Their Products	15	200·3	131·8	174·4	167·2	154·8	149·6	153·3	144·4	130·6
Animals and Their Products	3	91·4	85·3	87·3	78·9	93·6	86·9	95·0	119·2	94·9
Fibres, Textiles and Textile Products	15	165·0	156·5	182·4	181·7	184·0	158·0	143·7	153·8	147·1
Wood, Wood Products and Paper	3	174·8	151·3	178·2	167·0	175·6	164·7	141·7	142·1	150·9
Iron and Its Products	11	137·6	103·5	108·8	107·4	98·6	95·0	95·0	93·6	95·7
Non-Ferrous Metals and Their Products	3	87·2	89·2	91·8	92·0	100·6	107·4	106·7	103·7	115·4
Non-Metallic Minerals and Their Products	7	179·3	181·6	162·2	145·4	143·9	141·7	130·1	124·8	123·6
Chemicals and Allied Products	3	215·2	164·3	143·7	146·9	140·3	148·7	148·2	138·6	134·3
Totals, Imports	60	160·4	135·0	147·6	142·0	139·6	131·7	127·0	127·3	122·9
Combined Indexes	–	162·8	136·5	141·7	140·7	146·3	140·1	136·3	133·0	130·6

CHAPTER XXI.—PUBLIC FINANCE.

The following treatment of public finance includes a discussion of Dominion, provincial and municipal finance in Canada, with numerous tables, and closes with a brief discussion of the national wealth and national income of the Dominion as the basis of all public finance.

In recent years the subject of public finance has been more elaborately treated than formerly, in response to an increasing public demand resulting from the growing pressure of taxation to meet the augmented expenditures of the national, provincial and local administrations. In the consideration of these growing expenditures two facts must be kept in mind: (1) that our country is showing a relatively rapid growth of population—22 p.c. in the 10 years from 1911 to 1921—and (2) that $1.50 in 1930 had approximately the same retail purchasing power as $1 in 1913. Furthermore, since most of our citizens are producers, the effect of this latter fact in swelling the aggregated total money income of the citizens of Canada so as to increase their tax-paying power should not be forgotten. In addition, there is an evident increase in the functions of government.

The great increase in Dominion expenditure since 1913 has, of course, been mainly due to the war and the burden of interest, pension charges, soldiers' civil re-establishment, etc., resulting from the war. Similar increases have also taken place during the same period in provincial and municipal expenditures. Thus in their fiscal years ended 1929 the total ordinary expenditure of the nine Provincial Governments was $177,542,192, as compared with $53,826,219 in 1916, only 13 years before, an increase of no less than 230 p.c. (The aggregate interest payments of Provincial Governments rose from $7,817,844 in 1916 to $41,207,090 in 1929.) Again, between 1913 and 1929, the aggregate taxes imposed by the municipalities of Ontario increased from $34,231,214 to $115,787,422—an increase of 238·3 p.c. In Quebec the ordinary receipts of municipalities other than counties increased from $20,319,277 in 1914 to $59,994,328 in 1929, an increase of 195·3 p.c. In Manitoba the increase in municipal taxation has been from $9,922,537 in 1912 to $19,463,666 in 1929, an increase of 96·2 p.c. In Saskatchewan the grand total of municipal tax levies was $13,358,627 in 1914 and $28,563,828 in 1929. In Alberta the municipal taxes levied amounted to $9,791,846 in 1914 and to $13,886,677 in 1929. In British Columbia the taxes collected by the municipalities totalled $8,698,820 in 1914 and $17,109,794 in 1929. Finally, in the extreme east the aggregate tax receipts of the municipalities of Nova Scotia were $6,416,142 in 1929, as compared with $3,254,094 as recently as 1919, an increase of 97 p.c. in the last ten years. The seven provinces covered by these statistics contained in 1921 approximately 94 p.c. of the population of the Dominion.

Section 1.—Dominion Public Finance.[1]

Historical Sketch.—Both under the French *régime* and in the earlier part of the British, the territorial or casual revenues of Canada, consisting of certain seigneurial dues and the proceeds of the sale of government timber and land, were reserved to the Crown, while the right of levying taxes and of regulating the trade and commerce of the colony was, after 1763, deemed to be vested in the British Parliament.

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[1] The data contained in this section have been revised by the Department of Finance, with the exception of those parts dealing with recent modifications in taxation and war tax revenue, which were checked by the Department of National Revenue.

By the Quebec Act of 1774, certain duties on spirits and molasses were imposed, to be expended by the Crown in order to provide a revenue "towards defraying the expenses of the administration of justice and the support of the civil government of the province". A little later, in 1778, the British Government, by the Declaratory Act (18 Geo. III, c. 12), renounced forever the right of taxing the colonies to provide Imperial revenue, but maintained its claim to impose duties considered necessary for the regulation of trade, the proceeds to go towards defraying the expenditures of the colonial administration. After the Constitutional Act of 1791, the customs duties remained under the control of the Imperial Government, their revenue, as well as the territorial revenue above mentioned, coming in to the executive administration independently of the Legislative Assembly and thus making the executive power largely independent of the Legislature. In case these revenues proved insufficient, recourse could generally be had to the grant made by the Imperial Government for the support of the army. As time went on, however, the Crown revenues became more and more inadequate to meet the increasing expenditure, while the wave of economy in Great Britain after 1815 made it impossible any longer to supplement these revenues from military sources. On the other hand, the purely provincial revenues collected under the authorization of the Provincial Legislature showed an increasing surplus. The power of the purse thus began to pass into the hands of the Legislatures; further, in 1831 the British Parliament passed an Act placing the customs duties at the disposal of the Legislatures.

Under the Act of Union a consolidated revenue fund was established. All appropriation bills were required to originate in the Legislative Assembly, which was forbidden to pass any vote, resolution or bill involving the expenditure of public money unless the same had first been recommended by a written message of the Governor General. The British Government surrendered all control of the hereditary or casual revenues, which were thenceforth paid into the treasury of the province to be disposed of as its Legislature should direct.

At the interprovincal conferences which took place prior to Confederation, it was decided that the new Dominion Government, which was to take over permanently, as its chief source of revenue, the customs and excise duties that had yielded the greater part of the revenues of the separate provinces (direct taxation being as unpopular in British North America as in other new countries), was also to assume the provincial debts and to provide out of Dominion revenues definite cash subsidies for the support of the Provincial Governments. (See Tables **17** and **18**.) Until the Great War, which made other taxes necessary, the customs and excise revenue constituted the chief resource of the Dominion Government for general purposes—the Post Office revenue and the Government railway receipts which are not taxes at all, being mainly or entirely absorbed by the expense of administering these services. Indeed, for many years preceding the war, customs and excise duties, together with the revenue from the head tax on Chinese immigrants, were the only items of receipts which were classified as taxes by the Department of Finance. In the last pre-war fiscal year these two items aggregated $126,143,275 out of total receipts on consolidated fund account amounting to $163,174,395, the Post Office and Government railways furnishing between them $26,348,847 of the remainder, offset, however, by expenditures on these two services amounting to $27,757,196. Miscellaneous revenue, largely fees, amounted in that year to $10,682,273—a comparatively small fraction of the total. As both customs and excise taxes were indirect, the average Canadian felt but little the pressure of taxation for Dominion purposes.

The war enormously increased the expenditure, and this increase had in the main to be met by loans. It is, however, a cardinal maxim of public finance that, where loans are contracted, sufficient new taxation should be imposed to meet the interest charge upon the loans and to provide a sinking fund for their ultimate extinction. This war taxation was begun in Canada within the first weeks of the war, when in the short war session of August, 1914, increases were made in the customs and excise duties on various commodities, including coffee, sugar, spirituous liquors and tobacco. In 1915, special additional duties of 5 p.c. *ad valorem* were imposed on commodities imported under the British preferential tariff and 7½ p.c. *ad valorem* on commodities imported under the intermediate and general tariffs, certain commodities being excepted. New internal taxes were also imposed on bank circulation, on the income of trust and loan companies, on insurance in other than life and marine companies, on telegrams and cablegrams, railway tickets, sleeping-car berths, etc., also on cheques, postal notes, money orders, letters and post cards. In the following year, the business profits war tax (dropped in 1921)[2] was introduced, and in 1917 an income tax was imposed. In 1918 both of these taxes were increased and their application widened, and in 1919 the income tax was again increased, and still further augmented in 1920 by a surtax of 5 p.c. of the tax on incomes of $5,000 and over; the sales tax was also introduced in that year. The cumulative result of these war taxes was that, in the fiscal year ended Mar. 31, 1921, customs duties were for the first time displaced from their position as the chief factor in Canadian revenue, the war taxes yielding $168,385,327, as against the customs yield of $163,266,804. In 1922 war taxes yielded $177,484,161, while the yield of the customs fell to $105,686,645. Again, in 1923 the war taxes yielded $181,634,875 and customs duties $118,056,469, in 1924 $182,036,261 and $121,500,798, in 1925 $147,164,158 and $108,146,871, in 1926 $157,296,321 and $127,355,144, in 1927 $156,167,434 and $141,968,678. In 1928, however, the customs duties yielded $156,985,818 as against $150,319,087 collected by the war taxes, in 1929 $187,206,332 as against $145,029,742, and in 1930 $179,429,920 as against $134,086,005 collected by the war taxes.

A more detailed sketch of the new taxation imposed during the war period from 1914 to 1921 will be found at pp. 755-757 of the 1926 Year Book. An outline of the chief changes in taxation between 1922 and 1925 will be found at pp. 807-809 of the 1927-28 Year Book.

Recent Modifications in the System of Taxation.[1]—In the session of 1926 various changes were made in the customs tariff by c. 7. Green coffee, spices, nutmegs, mace, arrowroot and sponges were made free under the British preferential tariff, and the preferential rate on pineapples in air-tight cans was reduced from 1¾c. to ½c. per lb. The duties on raw sugar imported for refining were also materially reduced under all tariffs, but so as to increase the British preference. Again, the duties on automobiles were substantially reduced under all tariffs, the rate on the cheaper types of automobiles imported under the general tariff being reduced from 35 to 20 p.c., and under the British preferential tariff from 22½ to 12½ p.c. Finally, tin plate was made free under the preferential tariff and reduced from 12½ to 5 p.c. under the general tariff. By c. 10, amending the Income War Tax Act of 1917, the exemption limit was raised from $2,000 to $3,000 in the case of married persons or those with dependants, and from $1,000 to $1,500 in the case of other persons. The rates of taxation were also reduced all along the line, those with incomes of $5,000 or less paying only 2 p.c. instead of 4 p.c. or more of their taxable income, the income tax of a married person without dependants being reduced from $619·50 to $290 on an income of $10,000 and from $3,024 to $2,530 on an income of $25,000. The rate of taxation of corporate incomes was reduced from 10 to 9 p.c. The budget speech also announced the abolition of the tax on receipts and the restoration of penny postage, both as from July 1, 1926.

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[1] For modifications in taxation in the years 1922 to 1925, see 1927-28 Year Book, pp. 807-809.

[2] Belated revenue from this tax has been collected in subsequent fiscal years down to 1930 (see Table 8, p. 844).

In the session of 1927 the general rate of the sales tax was reduced from 5 to 4 p.c. The rate of the graduated income war tax was also reduced by 10 p.c., so that each taxpayer paid only 90 p.c. of what he would have paid on the same income in the preceding year. The $500 exemption for children was extended to include those under 21 (instead of 18) years of age dependent upon the taxpayer for support. Further, the tax on cheques, money orders, notes, etc., which had previously been graduated from a minimum of 2 cts. on cheques of from $5 to $50 to a maximum of $1 on cheques of $2,500 and over, was reduced to a flat 2 cts. on all cheques of $10 and over. The excise tax on matches was also reduced by 25 p.c. No changes were made in the tariff in 1927, as the new Advisory Board on Tariff and Taxation, to which certain matters had been referred, was only in the initial stages of its investigations.

In 1928 the general rate of the sales tax was reduced from 4 to 3 p.c. The rate of the graduated income war tax on individuals was reduced by a further 10 p.c. of the 1926 tax, so that an individual paid only 80 p.c. of what he would have paid on the same income two years before. Similarly, the rate of taxation on the income of corporations and joint stock companies, which had been 10 p.c. two years before and 9 p.c. in 1927, was reduced to 8 p.c. on incomes in excess of $2,000. The $500 exemption for children was further extended to include this exemption for sons and daughters over 21 dependent upon the taxpayer for support on account of mental or physical infirmity. The customs tariff was also amended in the direction of reducing the duties upon machinery and other commodities used in production in the mining and fishing industries, on onion plants for propagation, also on disinfecting and spraying preparations in the fruit and horticultural industries, and on press blankets used in the printing and publishing industry. In the textile industries reductions were very generally made on cotton, woollen and other yarns used by manufacturers as the material for further production, also on many finished cotton, woollen, linen, flax, jute, silk and artificial silk products. Also the duty on many types of machinery used in the textile industry was generally reduced or even taken off entirely under the British preferential tariff. For details of these very numerous changes, see c. 17 of the 1928 Statutes.

In 1929 the general rate of the sales tax was reduced from 3 p.c. to 2 p.c. The taxes on certain insurance premiums, on cables and telegrams, and on railway and other tickets were also repealed. The tax on sales or transfers of stocks was so modified as to be levied on the actual value rather than the par value of shares transferred; further, instead of a tax of 3 cents being levied for every $100 par value of shares transferred, the tax was made to vary from one-tenth of a cent per share, where shares are sold at 50 cents each or less, to four cents, where they are sold at over $100 each. A number of changes were made in the Customs Tariff by c. 39 of the 1929 Statutes.

In 1930, the general rate of the sales tax was reduced from 2 to 1 p.c. *Bona fide* co-operative organizations, government or like annuities (to the extent of $5,000), and donations to churches, schools and hospitals (to a maximum of 10 p.c. of the net income of the taxpayer) were exempted from income tax, and the $500 exemption for children was extended to cover certain dependent relatives suffering from mental or physical infirmity. In the customs tariff, the iron and steel schedules were completely revised, seasonal tariffs were adopted in respect of fruits and vegetables, duties were reduced on tea, porcelain and chinaware and meats and increased on beans and butter, and so-called countervailing duties were imposed in respect of 16 commodities. The year was unusual in that it saw a second tariff revision, namely that of the special session, of September, when the anti-dumping clauses of the tariff were re-written and very many changes were made in rates of duty in the schedules. Increases were made *inter alia* on most agricultural products, on printed matter and manufactures of paper, on numerous commodities in the iron and steel group, on a wide range of textile items and on boots and shoes. Power was granted to the Governor in Council to prohibit the importation into Canada of goods exported to the Dominion from any country not a contracting party to the Treaty of Versailles.

Subsection 1.—The Current Balance Sheet of the Dominion.

A summary review of the current financial situation of the Dominion as on Mar. 31, 1930, is given in the balance sheet shown in Table 1. This shows the gross debt on the above date to have been $2,544,586,411, partly offset by available assets aggregating $366,822,452, leaving a net debt of $2,177,763,959.[1] Non-available assets, including such public works as canals and railways, also loans to railways, amounted in the aggregate to $1,656,443,062, leaving a debit balance on Consolidated Fund Account on Mar. 31, 1930, of $521,320,897. The details of the various assets and liabilities are contained in the schedules accompanying the balance sheet and printed in the Public Accounts.

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[1] The net debt on Mar. 31, 1924, was $2,417,783,275; on Mar. 31, 1925, $2,417,437,686; on Mar. 31, 1926, $2,389,731,099; on Mar. 31, 1927, $2,347,834,370; on Mar. 31, 1928, $2,296,850,233 and on Mar. 31, 1929, $2,225,504,705. See Table 19, p. 853.

1. Balance Sheet of the Dominion of Canada, as at Mar. 31, 1930.

(From the Public Accounts.)

ACTIVE ASSETS—		
Cash on hand and in banks		$ 27,991,597
Specie reserve		65,927,474
Advances to provinces, banks, etc		140,578,126
Advances to foreign Governments		30,834,720
Soldier and general land settlement loans		57,036,174
Miscellaneous current accounts		44,454,361
Total Active Assets		$ 366,822,452
Balance being Net Debt, Mar. 31, 1930 (exclusive of interest accrued and outstanding carried forward)		2,177,763,959
		$ 2,544,586,411
NON-ACTIVE ASSETS—		
Public Works, Canada		$ 223,936,778
Public Works, railways		429,320,232
Public Works, miscellaneous		223,889,431
Military property and stores		12,035,420
Territorial accounts		9,895,948
Railway accounts (old)		88,398,829
Railway accounts (loans non-active)		614,451,573
Canadian National Steamships (loans non-active)		13,723,807
Miscellaneous investments and other accounts (non-active)		40,791,044
Balance Consolidated Fund as at Mar. 31, 1929	$ 595,922,837	
Excess of revenue over expenditure, year ended Mar. 31, 1930	74,601,940	
		521,320,897
		$ 2,177,763,959
LIABILITIES—		
Dominion notes in circulation		$ 174,326,618
Bank Note Circulation Redemption Fund		6,363,362
Post Office account, money orders, postal notes, etc., outstanding		5,091,768
Post Office Savings Bank deposits		26,086,036
Insurance and superannuation funds		70,422,860
Trust funds		20,976,277
Contingent and special funds		713,948
Province accounts		9,623,817
Funded Debt		2,228,128,629
Interest due and outstanding		2,853,096
		$ 2,544,586,411

NOTE.—The Dominion of Canada is also responsible for principal and interest on loans negotiated by railways, under various Acts of Parliament, amounting to $590,091,292. (See p. 856 for details.)

Subsection 2.—Receipts and Disbursements.

The receipts of the Dominion Government on Consolidated Fund Account for the fiscal year ended Mar. 31, 1930, were $441,411,806, a decrease of $14,052,068 as compared with the preceding year; besides these, special receipts amounted to $4,505,186—a total of $445,916,992 (Table **2**). The regular expenditure on consolidated fund account was $357,779,794, while special expenditure amounted to $9,803,722. There was also a net expenditure on capital account of $22,561,144, and other expenditures of $8,031,586, including Government Merchant Marine $2,491,297, advances to Quebec Harbour Commissioners (non-active) $2,821,000. Thus the total disbursements, inclusive of these and other advances, amounted to $398,176,246. There was a decrease of $47,740,746 in the net debt (gross debt less available assets) during the year. (See Table **23**.)

Detailed statistics of receipts and disbursements are contained in Tables **2** and **3**. Tables **4** and **5** are historical tables giving the figures of the main items of Dominion receipts and expenditure since Confederation, while Table **6** shows the per capita receipts and expenditure for these years, calculated on census and estimated populations.

2.—Details of Revenue Receipts, fiscal years ended Mar. 31, 1926-1930.

Item.	1926.	1927.	1928.	1929.	1930.
Consolidated Fund Receipts—	$	$	$	$	$
Taxation—					
Customs	127,355,144	141,968,678	156,985,818	187,206,332	179,429,920
Excise	42,923,549	48,513,160	57,400,898	63,684,954	65,035,701
War Tax Revenue—					
Banks	1,176,869	1,174,665	1,224,645	1,242,399	1,408,420
Trust and loan companies	326,714	335,368	345,430	7,641	–
Insurance companies	950,221	947,830	999,003	894,864	74,416
Business profits	1,173,448	710,102	956,031	455,232	173,300
Income tax	55,571,962	47,386,309	56,571,047	59,422,323	69,020,726
Sales tax, tax on cheques, transportation tax, etc	98,097,106	105,613,160	90,222,931	83,007,283	63,409,143
Totals, Receipts from Taxation	**327,575,013**	**346,649,272**	**364,705,803**	**395,921,028**	**378,551,626**
Non-Tax Revenue—					
Canada Gazette	66,885	68,312	81,243	80,214	93,890
Canals	921,215	961,694	1,355,677	1,230,332	1,043,647
Casual	3,545,897	3,302,484	3,614,066	4,030,326	4,291,162
Chinese revenue	21,244	13,228	14,179	18,224	14,345
Dominion Lands	2,803,513	3,327,273	3,688,595	4,070,339	4,139,104
Electric light inspection	456,144	538,917	563,913	563,964	546,957
Fines and forfeitures	246,593	504,309	568,140	655,485	748,343
Fisheries	168,277	175,213	119,144	109,300	110,724
Gas inspection	80,069	76,880	85,716	92,398	100,763
Inspection of staples (Grain Act)	2,685,592	2,582,984	2,677,877	2,992,541	2,047,207
Insurance Inspection	122,779	120,334	123,768	131,626	138,780
Interest on investments	8,535,086	8,559,401	10,937,822	12,227,562	13,518,205
Law stamps	7,262	8,152	12,170	10,769	9,548
Mariners' Fund	190,572	195,080	222,048	236,808	209,322
Military College	52,645	18,239	20,232	20,204	19,820
Military pension revenue	131,099	128,386	128,017	155,830	158,881
Ordnance Lands	13,007	29,702	14,206	24,830	30,277
Patent fees	535,124	517,930	495,792	530,239	574,918
Penitentiaries	155,759	170,338	177,933	178,449	181,024
Post Office	30,334,575	29,069,169	31,562,580	30,611,964	33,345,385
Premium, discount and exchange	1,153,132	649,337	594,211	568,846	531,366
Public Works	495,066	539,941	453,084	459,963	461,432
Royal N.W.M.P. Officers' pensions	5,858	8,769	6,144	6,373	6,471
Steamboat inspection	123,380	135,131	127,852	136,932	131,356
Superannuation fund	463	392	172	81	5
Weights and Measures	315,704	333,034	361,690	399,247	407,248
Other revenues	3,553	11,875	5,909	–	–
Totals, Consolidated Fund Receipts	**380,745,506**	**398,695,776**	**422,717,983**	**455,463,874**	**441,411,806**
Special Receipts—					
Miscellaneous revenue	2,147,503	1,756,704	6,924,594	4,687,607	4,505,186
Totals, Receipts	**382,893,009**	**400,452,480**	**429,642,577**	**460,151,481**	**445,916,992**

3.—Details of Expenditure, fiscal years ended Mar. 31, 1926-1930.

NOTE.—"Adulteration of food," "Marine hospitals" and "Quarantine" have been classified in the public accounts of 1926-1930 under the heading "Health", but are here deducted, so as not to break the comparability of the figures with those of ealier years.

Item.	1926.	1927.	1928.	1929.	1930.
Consolidated Fund Expenditure— Charges on Debt—	$	$	$	$	$
Charges of management	875,368	963,252	884,532	923,363	1,015,766
Interest on debt	130,691,493	129,675,367	128,902,945	124,989,950	121,566,213
Premium, discount and exchange	9,020	24,013	42,233	67,254	72,976
Totals, Charges on Debt	131,575,881	130,662,632	129,829,710	125,980,567	122,654,955
Adulteration of food	95,799	105,800	120,800	130,000	156,567
Administration of justice	2,159,573	2,201,141	2,190,810	2,203,209	2,198,909
Air Board	1,880,615	2,197,645	3,891,861	5,040,505	5,920.670
Agriculture	5,771,476	5,838,941	6,487,766	7,201,566	9,286 746
Bounties	31,784	164,791	82,807	79,290	40,030
Civil Government	10,779,338	10,865,757	11,576,140	11,819,981	12,258,009
Customs and Excise	9,717,920	10,130,430	11,801,331	12,876,760	13,130.611
Department of Mines	551,997	558,695	624,184	679,179	805,748
Dominion Lands	3,638,537	4,251,663	4,082,752	4,986,962	5,479,835
Fisheries	1,449,731	1,437,179	1,751,147	1,974,118	2,274,294
Government of N.W. Territories	370,435	371,320	392,378	456,440	574,950
Health	195,319	207,578	260,804	384,003	401,155
Immigration	2,328,931	2,338,992	2,704,698	2,631,967	2,757,331
Indians	3,684,951	3,869,394	4,199,541	4,598,292	5,134,553
Labour	1,271,967	1,452,415	1,411,027	2,349,671	2,366,399
Legislation	4,208,477	4,543,798	2,041,192	2,326.462	2,318.925
Lighthouse and Coast Service	2,355,893	2,463,558	2,771,031	2,812,900	2,874,623
Mail subsidies and steamship subventions	1,078,038	1,008,999	844,591	1,026,375	1,083,436
Marine hospitals	139,999	189,924	189,970	210,000	253,649
Militia	9,256,628	9,141,220	10,151,975	11,044,334	11,032,749
Miscellaneous	4,399,568	5,013,578	6,501,410	7,207,046	5,281,928
Naval Service	1,459,664	1,597,407	1,702,225	1,836,488	3,013,396
Ocean and River Service	2,397,924	2,566,730	3,749,105	3,683,256	5,136,332
Penitentiaries	1,620,600	1,685,556	1,755,763	1,807,655	2,561,115
Pensions	37,203,700	37,902,939	39,778,130	41,487,323	40,406,565
Post Office	30,499,686	31,007,698	31,782,968	33,483,059	35,036,629
Public Works	931,491	918,580	942,544	939,985	924.110
Railways and Canals	2,120,223	2,152,015	2,535,361	2,405,272	2,459.990
Public Works income	13,416,045	11,178,054	14,037,366	17,003,254	18,134,359

3.—Details of Expenditure, fiscal years ended Mar. 31, 1926-1930—concluded.

Item.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$
Quarantine	199,452	191,917	199,861	200,000	210,000
Railways and Canals, income	3,037,906	1,581,688	5,838,145	8,297,914	8,680,901
Royal C.M. Police	2,062,493	2,097,887	2,300,439	2,600,525	2,901,817
Scientific institutions	1,007,960	960,233	1,004,195	1,081,502	1,133,221
Soldiers' Civil Re-Establishment	7,705,584	6,976,762	6,958,811	7,901,957	8,494,277
Soldiers' Land Settlement	1,237,421	1,250,787	1,334,008	1,441,951	1,362,122
Steamboat inspection	118,843	121,961	131,065	141,485	140,253
Subsidies to provinces	12,375,129	12,516,740	12,516,740	12,553,725	12,496,958
Superannuation No. 1	719,689	677,692	625,005	577,661	531,253
Superannuation No. 3	29,315	20,789	19,038	17,792	15,930
Superannuation No. 4	831,510	770,121	723,825	671,611	631,293
Civil Service Widows' Annuities Act, 1927	–	–	130,946	140,570	142,708
Trade and Commerce	4,077,585	3,692,148	3,517,492	3,945,530	4,325,616
Weights and Measures, etc	460,222	475,899	498,493	530,601	568,503
Yukon Territory	210,063	189,120	178,511	184,181	186,374
Other	117	–	–	–	–
Totals, Ordinary Expenditure	**320,660,479**	**319,548,173**	**336,167,961**	**350,952,924**	**357,779,794**
Special Expenditure—					
War and demobilization	191,393[1]	64,485[1]	1,656,011[1]	−669,399[1]	59,702[1]
Cost of Loan Flotations	3,523,925	3,278,032	13,057	11,330	17,071
Other charges	2,806,167[5]	4,537,945[5,6]	1,692,254[5,6]	2,055,823[5,6]	9,726,949[6,7]
Totals, Special Expenditure	**6,521,485**	**7,880,462**	**3,361,322**	**1,397,754**	**9,803,722**
Capital Expenditure[2]	**16,798,549**	**19,558,703**	**20,635,648**	**22,809,275**	**22,561,144**
Loans and Advances, Non-Active—					
Advances to railways (non-active)	10,000,000	10,000,000	–	–	2,932,653
Advances to Canadian Government Merchant Marine, Ltd	668,000	426,817	999,837	758,000	2,491,297
Advances to Quebec Harbour Commissioners (non-active)	511,000	680,000	1,458,000	2,888,000	2,821,000
Miscellaneous debits and credits *re* sundry non-active assets accounts	26,910	462,596	16,035,672[3]	10,000,000[4]	−213,364
Grand Totals, Expenditure	**355,186,423**	**358,556,751**	**378,658,440**	**388,805,953**	**398,176,246**

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[1] Expenditure on adjustment of war claims, $319,210 less receipts $127,817 on war and demobilization account in 1926, $241,704 less $177,308 in 1927, $1,860,985 less $204,974 in 1928, less $669,399 in 1929 and $94,996 less $35,294 in 1930.

[2] Net figure; includes large expenditures on Welland Ship Canal. See p. 701.

[3] Includes $13,935,673 to provide for revaluation and losses on account of soldiers' land settlement loans; $2,000,000 on account of seed grain relief, Department of Interior; and $100,000 University Hospital, Edmonton, Alberta, transferred to non-active assets.

[4] To provide for revaluation and losses on account of soldiers' land settlement loans.

[5] Includes $2,521,083 on account of Home Bank Depositors' Relief in 1926, $256,776 in 1927, $205,033 in 1928, and $17,109 in 1929.

[6] Includes $1,099,673 Government contributions to the Civil Service Superannuation Fund under the Act of 1924 (14-15 Geo 5, c 69) in 1927, $1,402,210 in 1928, $1,681,700 in 1929, and $1,892,591 in 1930.

[7] Includes $6,700,000 Reparations—claims for compensation.

4.—Principal Items of Receipts of Canada on Consolidated Fund Account, 1868-1930.

Fiscal Year.	Customs. Duties.	Excise. Duties.	War Tax Revenue.[1]	Total Revenue from Taxation.	Interest on Investments.	Post Office and Money Orders.	Total Revenue Receipts.[2]
	$	$	$	$	$	$	$
1868	8,578,380	3,002,588	–	11,700,681	174,073	525,692	13,687,928
1869	8,272,880	2,710,028	–	11,112,573	824,424	535,315	14,379,175
1870	9,334,213	3,619,623	–	13,087,882	383,956	573,566	15,512,226
1871	11,841,105	4,295,945	–	16,320,369	554,384	612,631	19,335,561
1872	12,787,982	4,735,652	–	17,715,552	488,042	692,375	20,714,814
1873	12,954,164	4,460,682	–	17,616,555	396,404	833,657	20,813,469
1874	14,325,193	5,594,904	–	20,129,185	610,863	1,139,973	24,205,093
1875	15,351,012	5,069,687	–	20,664,879	840,887	1,155,332	24,648,715
1876	12,823,838	5,563,487	–	18,614,415	798,906	1,102,540	22,587,587
1877	12,546,988	4,941,898	–	17,697,925	717,684	1,114,946	22,059,274
1878	12,782,824	4,858,672	–	17,841,938	791,758	1,207,790	22,357,011
1879	12,900,659	5,390,763	–	18,476,613	592,500	1,172,418	22,517,382
1880	14,071,343	4,232,428	–	18,479,577	834,793	1,252,498	23,307,407
1881	18,406,092	5,343,022	–	23,942,139	751,513	1,352,110	29,635,298
1882	21,581,570	5,884,860	–	27,549,047	914,009	1,587,888	33,383,456
1883	23,009,582	6,260,117	–	29,269,699	1,001,193	1,800,391	35,794,650
1884	20,023,890	5,459,309	–	25,483,199	986,698	1,755,674	31,861,962
1885	18,935,428	6,449,101	–	25,384,529	1,997,035	1,841,372	32,797,001
1886	19,362,308	5,852,905	–	25,215,213	2,299,079	1,901,690	33,177,040
1887	22,373,951	6,308,201	–	28,682,152	990,887	2,020,624	35,754,993
1888	22,091,682	6,071,487	–	28,163,169	932,025	2,379,242	35,908,464
1889	23,699,413	6,886,739	–	30,586,152	1,305,392	2,220,504	38,782,870
1890	23,913,546	7,618,118	–	31,531,664	1,082,271	2,357,389	39,879,925
1891	23,305,218	6,914,850	–	30,220,068	1,077,228	2,515,823	38,579,311
1892	20,361,382	7,945,098	–	28,306,480	1,086,420	2,652,746	36,921,872
1893	20,910,662	8,367,364	–	29,278,026	1,150,167	2,773,508	38,168,609
1894	19,119,030	8,381,089	–	27,500,119	1,217,809	2,809,341	36,374,693
1895	17,585,741	7,805,733	–	25,391,474	1,336,047	2,792,790	33,978,129
1896	19,766,741	7,926,006	–	27,692,747	1,370,001	2,964,014	36,618,591
1897	19,386,278	9,170,379	–	28,556,657	1,443,004	3,202,938	37,829,778
1898	21,622,789	7,871,563	–	29,494,352	1,513,455	3,527,810	40,555,238
1899	25,150,745	9,641,227	–	34,791,972	1,590,448	3,193,778	46,741,249
1900	28,219,458	9,868,075	–	38,087,533	1,683,051	3,205,535	51,029,994
1901	28,293,930	10,318,266	–	38,612,196	1,784,834	3,441,505	52,514,701
1902	31,916,394	11,197,134	–	43,113,528	1,892,224	3,918,416	58,050,790
1903	36,738,033	12,013,779	–	48,751,812	2,020,953	4,397,833	66,037,069
1904	40,461,591	12,958,708	–	53,420,299	2,236,256	4,652,325	70,669,817
1905	41,437,569	12,586,475	–	54,020,124	2,105,031	5,125,373	71,182,773
1906	46,053,377	14,010,220	–	60,063,597	2,140,312	5,933,343	80,139,360
1907[3]	39,717,079	11,805,413	–	51,522,492	1,235,746	5,061,728	67,969,328
1908	57,200,276	15,782,152	–	72,982,428	1,925,569	7,107,887	96,054,506
1909	47,088,444	14,937,768	–	62,026,212	2,256,643	7,401,624	85,093,404
1910	59,767,681	15,253,353		75,021,034	2,807,465	7,958,548	101,503,711
1911	71,838,089	16,869,837	–	88,707,926	1,668,773	9,146,952	117,780,409
1912	85,051,872	19,261,662	–	104,313,534	1,281,317	10,492,394	136,108,217
1913	111,764,699	21,447,445	–	133,212,144	1,430,511	12,051,729	168,689,903
1914	104,691,238	21,452,037	–	126,143,275	1,964,541	12,954,530	163,174,395
1915	75,941,220	21,479,731	98,057	97,519,008	2,980,247	13,046,665	133,073,482
1916	98,649,409	22,428,492	3,620,782	124,666,969	3,358,210	18,858,690	172,147,838
1917	134,043,842	24,412,348	16,302,238	174,758,428	3,094,012	20,902,384	232,701,294
1918	144,172,630	27,168,445	25,379,901	196,720,976	4,466,724	21,345,394	260,778,953
1919	147,169,188	30,342,034	56,177,508	233,688,730	7,421,002	21,603,542	312,946,747
1920	168,796,823	42,698,083	82,079,801	293,574,707	17,086,981	24,471,709	349,746,335
1921	163,266,804	37,118,367	168,385,327	368,770,498	24,815,246	26,706,198	436,292,185[4]
1922	105,686,645	36,755,207	177,484,161	319,926,013	21,961,513	26,402,299	382,271,571[4]
1923	118,056,469	35,761,997	181,634,875	335,453,341	16,465,303	29,016,771	403,094,210[4]
1924	121,500,799	38,181,747	182,036,261	341,718,807	11,916,479	28,865,374	406,582,840[4]
1925	108,146,871	38,603,489	147,164,158	293,914,518	11,332,328	28,782,535	351,515,392[4]
1926	127,355,144	42,923,549	157,296,320	327,575,013	8,535,086	30,334,575	382,893,009[4]
1927	141,968,678	48,513,160	156,167,434	346,649,272	8,559,401	29,069,169	400,452,480[4]
1928	156,985,818	57,400,898	150,319,087	364,705,803	10,937,822	31,562,580	429,642,577[4]
1929	187,206,332	63,684,954	145,029,742	395,921,028	12,227,562	30,611,964	460,151,481[4]
1930	179,429,920	65,035,701	134,086,005	378,551,626	13,518,205	33,345,385	445,916,992[4]

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[1] For detailed statement see Table 8, p. 844. [2] Includes various smaller items of revenue receipts.
[3] Nine months. [4] Inclusive of special receipts of $1,905,648 in 1921, $319,184 in 1922, $8,479,310 in 1923, $9,745,158 in 1924, $4,680,913 in 1925, $2,147,503 in 1926, $1,756,704 in 1927, $6,924,594 in 1928, $4,687,607 in 1929 and $4,505,186 in 1930. See Table 2, p. 835.

5.—Principal Items of Dominion Expenditure, 1868-1930—continued on pp. 840-841.

NOTE.—From 1868 to 1906, inclusive, the fiscal years ended on June 30, and from that date to the present, on Mar. 31.

Fiscal Year.	Consolidated Fund.							
	Interest on Debt.	Charges of Management, Premium, Discount and Exchange.	Pensions.	Public Works.	Railways and Canals.[1]	Subsidies to Provinces.	Post Office.	Total Expenditure Chargeable to Consolidated Fund.[2]
	$	$	$	$	$	$	$	$
1868...	4,501,568	359,190	56,422	126,270	581,503	2,753,966	616,802	13,486,093
1869...	4,907,014	465,657	50,564	65,013	641,814	2,604,050	787,886	14,038,084
1870...	5,047,054	339,999	53,586	120,031	743,070	2,588,605	808,623	14,345,510
1871...	5,165,304	426,655	52,611	597,275	752,772	2,624,940	815,471	15,623,082
1872...	5,257,231	346,413	62,251	849,786	913,236	2,930,113	929,609	17,589,469
1873...	5,209,206	178,644	49,204	1,297,999	1,378,164	2,921,400	1,067,866	19,174,648
1874...	5,724,436	264,685	56,454	1,778,916	2,260,820	3,752,757	1,387,270	23,316,317
1875...	6,590,790	227,201	63,657	1,756,010	1,981,893	3,750,962	1,520,861	23,713,071
1876...	6,400,902	208,149	110,201	1,948,242	1,897,283	3,690,355	1,622,827	24,488,372
1877...	6,797,227	207,875	112,531	1,262,823	2,239,346	3,655,851	1,705,312	23,519,302
1878...	7,048,884	192,087	105,842	997,470	2,374,314	3,472,808	1,724,939	23,503,158
1879...	7,194,734	277,923	107,795	1,013,023	2,570,361	3,442,764	1,784,424	24,455,382
1880...	7,773,869	289,085	192,889	1,046,342	2,226,456	3,430,846	1,818,271	24,850,634
1881...	7,594,145	225,444	96,389	1,108,815	2,603,717	3,455,518	1,876,658	25,502,454
1882...	7,740,804	195,044	101,197	1,342,000	2,755,833	3,530,999	1,980,567	27,067,104
1883...	7,668,552	234,170	98,446	1,765,256	3,117,465	3,606,673	2,176,089	28,730,157
1884...	7,700,181	229,906	95,543	2,908,852	3,122,103	3,603,714	2,312,965	31,107,706
1885...	9,419,482	387,495	89,879	2,302,363	3,268,222	3,959,327	2,488,315	35,037,060
1886...	10,137,009	346,921	88,319	2,046,552	3,339,670	4,182,526	2,763,186	39,011,612
1887...	9,682,929	287,742	102,109	2,133,316	3,673,894	4,169,341	2,818,907	35,657,680
1888...	9,823,313	343,592	120,334	2,162,116	4,160,332	4,188,514	2,889,729	36,718,495
1889...	10,148,932	273,590	116,030	2,299,231	4,095,301	4,051,428	2,982,321	36,917,835
1890...	9,656,841	230,409	107,391	1,972,501	4,362,200	3,904,922	3,074,470	35,994,031
1891...	9,584,137	262,068	103,850	1,937,546	4,505,516	3,903,757	3,161,676	36,343,568
1892...	9,763,978	183,938	92,457	1,627,851	4,337,877	3,935,914	3,316,120	36,765,894
1893...	9,806,888	213,794	90,309	1,927,832	3,848,404	3,935,765	3,421,203	36,814,053
1894...	10,212,596	180,975	86,927	2,033,955	3,760,550	4,206,655	3,517,261	37,585,025
1895...	10,466,294	278,950	84,349	1,742,317	3,704,126	4,250,675	3,593,647	38,132,005
1896...	10,502,430	248,575	86,080	1,299,769	3,826,226	4,235,664	3,665,011	36,949,142
1897...	10,645,663	315,314	90,882	1,463,719	3,725,690	4,238,059	3,789,478	38,349,760
1898...	10,516,758	199,887	96,187	1,701,313	4,049,275	4,237,372	3,575,412	38,832,526
1899...	10,855,112	173,257	96,129	1,902,664	4,246,404	4,250,636	3,603,799	41,903,500
1900...	10,699,645	227,194	93,453	2,289,889	5,244,301	4,250,608	3,758,015	42,975,279
1901...	10,807,955	201,861	93,551	3,386,632	6,377,961	4,250,607	3,931,446	46,866,368
1902...	10,975,935	263,250	83,305	4,221,294	6,508,477	4,402,098	4,023,637	50,759,392
1903...	11,068,139	294,968	87,925	4,065,553	7,221,705	4,402,503	4,105,178	51,691,903
1904...	11,128,637	288,984	113,495	4,607,330	8,397,434	4,402,292	4,347,541	55,612,833
1905...	10,630,115	276,072	140,424	6,765,446	9,803,912	4,516,038	4,634,528	63,319,683
1906...	10,814,697	346,902	179,023	7,484,716	8,779,678	6,726,373	4,921,577	67,240,641
1907[3]..	6,712,771	244,548	125,832	5,520,571	7,011,858	6,745,134	3,979,557	51,542,161
1908...	10,973,597	383,820	187,557	8,721,327	10,586,114	9,032,775	6,005,930	76,641,452
1909...	11,604,584	356,707	191,533	12,300,184	10,780,126	9,117,143	6,592,386	84,064,232
1910...	13,098,160	358,973	216,697	7,261,218	10,215,038	9,361,388	7,215,338	79,411,747
1911...	12,535,851	376,777	240,586	8,621,431	11,123,251	9,092,472	7,954,223	87,774,198
1912...	12,259,397	455,011	245,045	10,344,487	12,330,463	10,281,045	9,172,036	98,161,441
1913...	12,605,882	502,988	283,188	13,468,505	13,766,180	13,211,800	10,882,804	112,059,537
1914...	12,893,505	487,184	311,900	19,007,513	14,935,138	11,280,469	12,822,058	127,384,473
1915...	15,736,743	554,729	358,558	19,343,532	13,876,060	11,451,673	15,961,191	135,523,207
1916...	21,421,585	731,836	671,133	12,039,252	20,777,830	11,451,673	16,009,139	130,350,727
1917...	35,802,567	496,387	2,814,546	8,633,096	27,124,004	11,469,148	16,300,579	148,599,343
1918...	47,845,585	488,712	8,155,691	7,432,901	34,849,608	11,369,148	18,046,558	178,284,313
1919...	77,431,432	1,305,676	18,282,440	6,295,060	45,494,584	11,327,236	19,273,758	232,731,283
1920...	107,527,089	1,462,658	26,004,461	9,016,246	8,418,624	11,490,860	20,774,312	303,843,930
1921...	139,551,520	1,102,088	37,420,751	10,846,875	8,886,458	11,490,860	22,696,561	361,118,145
1922...	135,247,849	4,109,601	36,153,031	10,574,364	8,624,094	12,211,924	28,121,425	347,560,691
1923...	137,892,735	1,003,068	32,985,998	9,978,440	7,691,261	12,207,313	27,794,502	332,293,732
1924...	136,237,872	993,907	33,411,081	11,900,847	2,126,803	12,386,136	28,305,941	324,813,190
1925...	134,789,604	849,694	34,888,665	12,029,578	1,996,152	12,281,391	29,873,802	318,891,901
1926...	130,691,493	884,388	37,203,700	13,416,045	2,120,223	12,375,128	30,499,686	320,660,479
1927...	129,675,367	987,265	37,902,939	11,178,054	2,152,015	12,516,740	31,007,698	319,548,173
1928...	128,902,945	926,765	39,778,130	14,037,366	2,535,361	12,516,740	31,782,968	336,167,961
1929...	124,989,950	990,617	41,487,323	17,003,254	2,405,272	12,553,724	33,483,058	350,952,924
1930...	121,566,213	1,088,742	40,406,565	18,134,359	2,459,990	12,496,958	35,036,629	357,779,794

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[1] Expenditure (Collection of Revenue.) After 1919 railway receipts were applied directly to railway expenditure; this accounts for the great decline in the figures in 1920 and subsequent years. [2] Includes various non-enumerated items. [3] Nine months.

5.—Principal Items of Dominion

Fiscal Year.	Capital Expenditure.								
	Canals.	Canadian Pacific Railway.	Debts Allowed to Provinces.	Dominion Lands.	Inter-colonial and Connected Railways, Miscellaneous.	Public Works.	Hudson Bay Railway.	National Transcontinental Railway, Including Quebec Bridge.	Prince Edward Island Railway.
	$	$	$	$	$	$	$	$	$
1868	51,498	–	–	–	455,250	41,690	–	–	–
1869	130,142	–	–	–	282,615	8,548	–	–	–
1870	–	–	–	–	1,693,229	–	–	–	–
1871	–	30,148	–	–	2,866,376	–	–	–	–
1872	255,646	489,428	1,666,200	–	5,131,141	68,746	–	–	–
1873	256,547	561,818	13,859,080	–	5,019,240	99,517	–	–	–
1874	1,189,592	310,225	4,927,061	–	3,614,899	135,963	–	–	–
1875	1,714,830	1,546,242	–	–	3,426,100	189,484	–	–	46,087
1876	2,388,733	3,346,567	–	–	1,108,322	267,840	–	–	42,546
1877	4,131,375	1,691,150	–	–	1,318,352	258,833	–	–	200,000
1878	3,843,339	2,228,373	–	–	408,817	170,120	–	–	6,551
1879	3,064,099	2,240,286	–	–	226,639	77,179	–	–	40,129
1880	2,123,366	4,044,523	–	–	2,048,015	8,730	–	–	16,540
1881	2,077,029	4,968,504	–	334,681	608,733	187,370	–	–	–
1882	1,647,759	4,589,076	–	511,882	585,569	70,949	–	–	402
1883	1,763,002	10,033,800	–	556,870	1,616,633	119,869	–	–	57,186
1884	1,577,295	11,192,722	7,172,298	723,658	2,689,690	491,376	–	–	130,663
1885	1,504,621	9,900,282	5,420	303,593	1,247,006	182,306	–	–	76,957
1886	1,333,325	3,672,585	3,113,334	130,653	765,967	569,202	–	–	4,668
1887	1,783,698	915,057	–	162,392	926,030	353,044	–	–	5,800
1888	1,033,118	52,099	–	135,048	1,713,487	963,778	–	–	–
1889	972,918	86,716	–	130,684	2,623,137	575,408	–	–	–
1890	1,026,364	40,981	–	133,832	2,351,787	3,220,926	–	–	–
1891	1,280,725	37,367	–	94,847	1,184,318	515,702	–	–	–
1892	1,463,279	66,212	–	86,735	316,784	224,390	–	–	8,300
1893	2,069,573	413,837	–	115,038	299,081	181,878	–	–	–
1894	3,027,164	146,540	–	149,147	439,209	102,059	–	–	–
1895	2,452,274	49,209	–	99,842	327,605	102,393	–	–	–
1896	2,258,779	65,669	–	82,184	260,396	114,826		–	–
1897	2,348,637	14,054	–	91,412	190,570	129,238	–	–	–
1898	3,207,250	692	–	127,505	252,756	364,018	–	–	17,542
1899	3,899,877	8,419	267,026	151,213	1,081,930	385,094	–	–	22,000
1900	2,639,565	236	–	199,470	3,255,348	1,089,827	–	–	53,546
1901	2,360,570	8,979	–	269,061	3,633,837	1,006,983	–	–	280,174
1902	2,114,690	449	–	370,838	4,626,841	2,190,125	–	–	475,998
1903	1,823,274	–	–	449,542	2,254,267	1,268,004	–	–	829,414
1904	1,880,787	33,076	–	748,855	1,879,566	1,334,397	–	6,249	698,878
1905	2,071,594	–	–	794,410	4,755,578[2]	1,642,042	–	778,491	591,413
1906	1,552,121	–	–	599,780	3,765,171	2,359,528	–	1,841,270	496,125
1907[6]	887,839	–	–	526,583	1,512,491[3]	1,797,871	–	5,537,867	91,210
1908	1,723,156	600	–	768,244	4,369,738	2,969,049	–	18,910,253	390,962
1909	1,873,868	939	–	797,747	3,874,480	2,832,295	92,428	31,317,132	561,207
1910	1,650,707	–	–	785,157	1,278,409	4,514,606	53,043	19,868,064	206,397
1911	2,349,475	2,918	–	−5,508	763,833	3,742,717	184,150	23,715,549	94,321
1912	2,560,938	–	–	–	1,710,449	4,116,385	159,632	22,264,130	128,042
1913	2,259,642	–	–	–	2,406,988[4]	6,057,515	1,099,063	15,279,837	103,001
1914	2,829,661	–	–	–	4,348,000	10,100,017	4,498,717	15,274,206	129,575
1915	5,490,796	–	–	–	6,914,977	11,049,030	4,773,744	12,648,242	570,531
1916	6,170,953	–	–	–	7,861,899	8,471,229	4,887,131	9,825,265	1,350,473
1917	4,304,589	–	–	–	4,873,032	7,838,116	2,604,280	6,650,263	609,752
1918	1,781,957	–	–	–	–	6,347,201	1,879,699	103,167	–
1919	2,211,964	–	–	–	–	5,705,348	562,558	1,723,638	–
1920	4,550,761	–	–	–	3,285,736	38,869,683	−235,608	527,480	−3,540[5]
1921	5,450,006	–	–	–	731,018	27,559,809	30,036	20,164	–
1922	4,482,610	–	–	–	9,649	10,431,699	34,770	–	97,000
1923	4,995,184	–	–	–	59,950	3,411,510	27,803	–	–
1924	6,747,395	–	–	–	–	3,804,427	207,872	–	196,418
1925	10,619,903	–	–	–	–	6,030,320	−124,154	–	–
1926	12,024,456	–	–	–	–	4,805,949	−2,484	–	–
1927	13,845,689	–	–	–	–	2,920,670	2,823,905	–	–
1928	13,762,905	71	–	–	–	3,281,097	3,554,503[7]	–	63,419[5]
1929	13,164,582	–	–	–	−7,990,740	16,818,019	6,159,563	–	–
1930	9,324,177	–	–	–	−25,856	6,573,530	6,472,214	−415	–

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[1] Including $2,725,504, for the improvement of the St. Lawrence, spent during the previous years by Montreal Harbour Commission. [2]Including $17,956, cost of new car for the Governor General. [3]Including $38,583, cost of new car for the Governor General. [4]Including $15,000, cost of new car for the Governor General. [5]Includes New Brunswick Railway. [6]Nine months. [7]Includes capital expenditure on Hudson Bay Terminals $880,278.

Expenditure, 1868-1930—concluded.

North-west Territories.	Militia.	Canadian Government Railways.	Total Capital Expenditure.	Other Expenditure.			Total Expenditure.	Fiscal Yr.
				Railway Subsidies.	War and Demobilization.	Other Charges.		
$	$	$	$	$	$	$	$	
–	–	–	548,438	–	–	37,158	14,071,689	1868
19,113	–	–	440,418	–	–	429,663	14,908,166	1869
1,821,887	–	–	3,515,116	–	–	155,988	18,016,614	1870
773,872	–	–	3,670,396	–	–	–	19,293,478	1871
241,889	–	–	7,853,050	–	–	223,456	25,665,975	1872
63,239	–	–	19,859,441	–	–	5,719	39,039,808	1873
–	–	–	10,177,740	–	–	4,019	33,498,076	1874
–	–	–	6,922,743	–	–	2,253,097	32,888,911	1875
–	–	–	7,154,008	–	–	315,764	31,958,144	1876
–	–	–	7,599,710	–	–	1,388,984	32,507,996	1877
–	–	–	6,657,200	–	–	385,413	30,545,772	1878
–	–	–	5,648,332	–	–	676,225	30,779,939	1879
–	–	–	8,241,174	–	–	949,948	34,041,756	1880
–	–	–	8,176,317	–	–	117,772	33,796,643	1881
–	–	–	7,405,637	–	–	201,885	34,674,625	1882
–	–	–	14,147,360	–	–	21,369	42,898,886	1883
–	–	–	23,977,702	208,000	–	2,567,453	57,860,862	1884
–	–	–	13,220,185	403,245	–	502,587	49,163,078	1885
–	–	–	9,589,734	2,701,249	–	10,534,973	61,837,569	1886
293,918	–	–	4,439,939	1,406,533	–	–	41,504,152	1887
539,930	–	–	4,437,460	1,027,042	–	155,623	45,064,124	1888
31,448	–	–	4,420,313	846,722	–	1,333,328	43,518,198	1889
4,773	–	–	6,778,663[1]	1,678,196	–	44,947	41,770,333	1890
2,901	–	–	3,115,860	1,265,706	–	68,074	40,793,208	1891
−1,243	–	–	2,164,457	1,248,216	–	2,093,569	42,272,136	1892
8,911	–	–	3,088,318	811,394	–	139,963	40,853,728	1893
−1,149	–	–	3,862,970	1,229,885	–	330,354	43,008,234	1894
−833	–	–	3,030,490	1,310,549	–	399,294	42,872,338	1895
−543	1,000,000	–	3,781,311	3,228,746	–	137,185	44,096,384	1896
3,284	745,965	–	3,523,160	416,955	–	682,881	42,972,756	1897
−1,272	173,740	–	4,142,231	1,414,935	–	944,589	45,334,281	1898
−1,853	387,810	–	6,201,516	3,201,220	–	236,399	51,542,635	1899
−1,473	230,851	–	7,467,370	725,720	–	1,549,098	52,717,467	1900
−1,632	135,885	–	7,693,857	2,512,329	–	900,312	57,982,866	1901
−1,543	299,697	–	10,077,095	2,093,939	–	1,040,374	63,970,800	1902
−3,040	428,223	–	7,049,684	1,463,222	–	1,541,763	61,746,572	1903
−2,616	1,299,910	–	7,879,102	2,046,878	–	6,716,235	72,255,048	1904
−2,478	1,299,964	–	11,931,014	1,275,630	–	2,277,812	78,804,139	1905
−1,767	1,299,876	–	11,912,104	1,637,574	–	2,487,323	83,277,642	1906
−1,352	975,283	–	11,327,792	1,324,889	–	1,583,297	65,778,138	1907[6]
−911	1,297,905	–	30,428,996	2,037,629	–	3,470,603	112,578,680	1908
−1,045	1,243,072	–	42,592,122	1,785,887	–	4,999,283	133,441,524	1909
−650	1,299,970	–	29,655,703	2,048,097	–	4,280,227	115,395,774	1910
−33,688	–	–	30,813,767	1,284,892	–	2,988,393	122,861,250	1911
–	–	–	30,939,576	859,400	–	7,181,665	137,142,082	1912
–	–	–	27,206,046	4,935,507	–	255,787	144,456,878	1913
–	–	–	37,180,176	19,036,237	–	2,640,162	186,241,048	1914
–	–	–	41,447,320	5,191,507	60,750,476	5,186,016	248,098,526	1915
–	–	–	38,566,950	1,400,171	166,197,755	3,186,898	339,702,502	1916
–	–	–	26,880,032	959,584	306,488,815	15,275,345	498,203,118	1917
–	–	32,999,880	43,111,904	720,405	343,836,802	10,706,787	576,660,210	1918
–	–	14,827,758	25,031,266	43,805	446,519,440	−7,283,582	697,042,212	1919
–	–	22,307,366	69,301,878	334,845	346,612,955	19,995,313	786,030,611[8]	1920
–	–	6,221,774	40,012,807	–	16,997,544	492,048	528,302,513[8]	1921
–	–	1,239,605	16,295,333	–	1,544,250	301,518	463,528,389[8]	1922
–	–	1,313,022	9,807,124	–	4,464,760	4,042,931	434,735,277[8]	1923
–	–	−94,835	10,861,277	−1,523	446,083	7,902,759	370,589,247[8]	1924
–	–	24,442	16,550,511	–	506,931	3,953,433	351,169,803[8]	1925
–	–	−29,372	16,798,549	–	191,392	6,330,092	355,186,423[8]	1926
–	–	−31,562	19,558,703	–	64,485	7,814,977	358,556,751[8]	1927
–	–	−26,347	20,635,648	–	1,656,011	1,705,311	378,658,440[8]	1928
–	–	−5,342,149	22,809,275	–	−669,399	2,067,153	388,805,953[8]	1929
–	–	217,494	22,561,144	–	59,702	9,744,021	398,176,246[8]	1930

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[8] Includes Advances to Railways (non-active), amounting to $45,780,690 in 1920, $109,662,655 in 1921, $97,950,645 in 1922, $77,863,938 in 1923, $23,710,617 in 1924, $9,934,453 in 1925, $10,000,000 in 1926, $10,000,000 in 1927, $2,932,653 in 1930; together with advances of $5,979,856 in 1923, $1,500,000 in 1924, $900,000 in 1925, $668,000 in 1926, $426,817 in 1927, $999,837 in 1928 and $758,000 in 1929, $2,491,297 in 1930 to the Canadian Government Merchant Marine; also other advances shown at the end of Table 3 on p. 836.

6.—Census and Estimated Populations, Per Capita Taxation and Total Revenue Receipts, Per Capita Expenditure on Consolidated Fund Account and Total Expenditure, 1868-1930.[1]

NOTE.—The years marked with an asterisk (*) are those of the censuses, April 2, 1871; April 4, 1881; April 6, 1891; April 1, 1901; June 1, 1911 and 1921. In all cases down to 1910 the population is estimated at the close of each fiscal year; June 30 from 1868 to 1906, and Mar. 31 from 1907 to 1910. For the intercensal years 1912 to 1920, and also for 1922 to 1930, the population is estimated as at June 1. The fiscal period of 1907 is for the nine months ended Mar. 31.

Fiscal Year.	Population.	Per Capita Revenue from Taxation.	Per Capita Total Revenue Receipts.	Per Capita Expenditure on Consolidated Fund Acct.	Per Capita Total Disbursements.	Fiscal Year.	Population.	Per Capita Revenue from Taxation.	Per Capita Total Revenue Receipts.	Per Capita Expenditure on Consolidated Fund Acct.	Per Capita Total Disbursements.
	No.	$	$	$	$		No.	$	$	$	$
1868...	3,372,000	3·47	4·05	4·00	4·17	1898..	5,199,000	5·55	7·80	7·47	8·72
1869...	3,413,000	3·26	4·21	4·11	4·37	1899..	5,259,000	6·62	8·89	7·97	9·80
1870...	3,454,000	3·79	4·29	4·15	5·22	1900..	5,322,000	7·16	9·59	8·07	9·90
1871*..	3,485,761	4·68	5·55	4·48	5·53	1901*.	5,371,315	7·19	9·78	8·72	10·79
1871...	3,518,000	4·64	5·50	4·44	5·48	1901..	5,403,000	7·15	9·72	8·67	10·73
1872...	3,611,000	5·04	5·74	4·87	7·11	1902..	5,532,000	7·79	10·49	9·18	11·56
1873...	3,668,000	4·80	5·67	5·23	10·64	1903..	5,673,000	8·59	11·64	9·11	10·88
1874...	3,825,000	5·26	6·33	6·10	8·76	1904..	5,825,000	9·17	12·13	9·55	12·40
1875...	3,887,000	5·32	6·34	6·10	8·46	1905..	5,992,000	9·02	11·88	10·57	13·15
1876...	3,949,000	4·71	5·70	6·20	8·09	1906..	6,171,000	9·73	12·99	10·90	13·49
1877...	4,013,000	4·41	5·50	5·86	8·10	1907..	6,302,000	8·18	10·71	8·18	10·44
1878...	4,079,000	4·37	5·49	5·76	7·49	1908..	6,491,000	11·24	14·80	11·81	17·34
1879...	4,146,000	4·46	5·43	5·90	7·42	1909..	6,695,000	9·26	12·71	12·56	19·93
1880...	4,215,000	4·38	5·53	5·90	8·08	1910..	6,917,000	10·85	14·67	11·48	16·68
1881*..	4,324,810	5·54	6·85	5·90	7·82	1911*.	7,206,643	12·31	16·34	12·18	17·04
1881...	4,337,000	5·52	6·83	5·88	7·79	1912..	7,365,205	14·16	18·48	13·33	18·62
1882...	4,384,000	6·28	7·62	6·18	7·91	1913..	7,527,208	17·70	22·41	14·89	19·19
1883...	4,433,000	6·60	8·08	6·48	9·68	1914..	7,692,832	16·40	21·21	16·56	24·21
1884...	4,485,000	5·68	7·11	6·94	12·90	1915..	7,862,078	12·40	16·93	17·24	31·56
1885...	4,539,000	5·59	7·23	7·72	10·80	1916..	8,035,584	15·51	21·42	16·22	42·27
1886...	4,589,000	5·49	7·23	8·50	13·48	1917..	8,180,160	21·36	28·45	18·17	60·93
1887...	4,638,000	6·18	7·71	7·69	8·95	1918..	8,328,382	23·62	31·31	21·41	69·24
1888...	4,688,000	6·01	7·66	7·84	9·61	1919..	8,478,546	27·56	36·91	27·45	82·21
1889...	4,740,000	6·45	8·19	7·79	9·18	1920..	8,631,475	34·01	40·52	35·20	91·07
1890...	4,793,000	6·58	8·33	7·52	8·71	1921*.	8,788,483	41·96	49·64	41·09	60·11
1891*..	4,833,239	6·25	7·98	7·52	8·44	1922..	8,908,550	35·91	42·91	39·01	52·03
1891...	4,844,000	6·24	7·96	7·50	8·42	1923..	9,028,240	37·16	44·65	36·81	48·15
1892...	4,889,000	5·79	7·55	7·52	8·65	1924..	9,150,940	37·34	44·43	35·50	40·50
1893...	4,936,000	5·93	7·73	7·46	8·28	1925..	9,268,700	31·71	37·93	34·41	37·89
1894...	4,984,000	5·52	7·29	7·54	8·79	1926..	9,389,693	34·89	40·78	34·15	37·83
1895...	5,034,000	5·04	6·75	7·58	8·52	1927..	9,519,220	36·42	42·07	33·57	37·67
1896...	5,086,000	5·45	7·20	7·26	8·67	1928..	9,658,000	37·76	44·49	34·81	39·21
1897...	5,142,000	5·55	7·36	7·46	8·36	1929..	9,796,800	40·41	46·97	35·82	39·69
						1930..	9,934,500	38·10	44·89	36·01	40·08

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[1] See the tables on pp. 833–841 for the figures on which this table is based.

7.—Per Capita Revenue Receipts and Expenditure, by Principal Items, 1924-1930.

RECEIPTS.

NOTE.—See Table 2 on p. 835 for the figures on which this table is based.

Item of Receipts.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
Consolidated Fund Receipts—	$	$	$	$	$	$	$
TAXATION—							
Customs	13·28	11·67	13·56	14·91	16·25	19·11	18·06
Excise	4·17	4·17	4·57	5·10	5·94	6·50	6·55
War Tax Revenue—							
Banks	0·14	0·13	0·13	0·12	0·13	0·13	0·14
Trust and loan companies	0·03	0·03	0·03	0·04	0·04	–	–
Insurance companies	0·09	0·09	0·10	0·10	0·10	0·09	0·01
Business profits	0·52	0·29	0·13	0·08	0·10	0·05	0·02
Income tax	5·92	6·07	5·92	4·98	5·86	6·07	6·95
Sales tax, tax on cheques, transportation tax, etc	13·19	9·26	10·45	11·09	9·34	8·47	6·38
Totals from Taxation	**37·34**	**31·71**	**34·89**	**36·42**	**37·76**	**40·42**	**38·11**
NON-TAX REVENUE—							
Interest on investments	1·30	1·22	0·91	0·90	1·13	1·25	1·36
Post Office	3·15	3·11	3·23	3·05	3·27	3·12	3·36
Other revenue	1·57	1·38	1·52	1·51	1·61	1·70	1·61
Total Consolidated Fund receipts	43·37	37·42	40·55	41·88	43·77	46·49	44·44
Special receipts	1·06	0·51	0·23	0·19	0·72	0·48	0·45
Grand Totals, Receipts	**44·43**	**37·93**	**40·78**	**42·07**	**44·49**	**46·97**	**44·89**

EXPENDITURE.

NOTE.—See Table 3 on pp. 836–837 for the figures on which this table is based.

Item of Expenditure.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$	$	$
Agriculture and Arts	0·74	0·62	0·61	0·61	0·67	0·74	0·93
Charges on debt	15·00	14·63	14·01	13·73	13·44	12·86	12·35
Civil Government	1·15	1·12	1·15	1·14	1·20	1·21	1·23
Customs and Excise	0·74	0·83	1·03	1·06	1·22	1·32	1·32
Dominion Lands	0·40	0·37	0·39	0·45	0·42	0·51	0·55
Immigration	0·26	0·30	0·25	0·25	0·28	0·27	0·28
Indians	0·39	0·39	0·39	0·41	0·43	0·47	0·52
Legislation	0·25	0·26	0·45	0·48	0·21	0·24	0·23
National Defence (Militia, Naval and Air Services)	1·35	1·26	1·34	1·36	1·64	1·83	2·01
Pensions	3·65	3·76	3·96	3·98	4·12	4·23	4·07
Post Office	3·09	3·22	3·25	3·26	3·29	3·42	3·53
Public Works, income	1·30	1·30	1·43	1·17	1·45	1·74	1·82
Royal C. M. Police	0·27	0·22	0·22	0·22	0·24	0·27	0·29
Soldiers' Civil Re-establishment	1·09	0·95	0·82	0·73	0·72	0·81	0·86
Soldiers' land settlement	0·17	0·15	0·13	0·13	0·14	0·15	0·14
Subsidies to provinces	1·35	1·33	1·32	1·32	1·29	1·28	1·26
Trade and Commerce	0·31	0·41	0·43	0·39	0·36	0·40	0·43
Other Ordinary expenditure	3·99	3·29	2·97	2·88	3·69	4·17	4·19
Totals, Ordinary Expenditure	**35·50**	**34·41**	**34·15**	**33·57**	**34·81**	**35·82**	**36·01**
Special expenditure	0·91	0·48	0·69	0·83	0·35	0·14	0·99
Other Disbursements—							
Capital expenditure	1·19	1·79	1·79	2·05	2·14	2·33	2·27
Advances to railways and Merchant Marine	2·75	1·17	1·14	1·10	0·10	0·08	0·55
Miscellaneous	0·15	0·04	0·06	0·12	1·81	1·32	0·26
Grand Totals, Expenditure	**40·50**	**37·89**	**37·83**	**37·67**	**39·21**	**39·69**	**40·08**

Subsection 3.—War Tax Revenue.

An account of the various war taxes imposed in 1915 and subsequently has already been given on pp. 831-3 in the introduction to this section. For convenience of reference the amounts received from these taxes since the beginning are segregated and the totals paid in to the Receiver-General are given in Table

8. The taxes imposed on banks, trust and loan companies and insurance companies are collected by the Department of Finance. The excise war taxes, the business profits war tax and the income war tax are collected by the Department of National Revenue, formerly the Customs and Excise Department. The amounts of excise war taxes collected from different sources in the last six fiscal years are given in Table **9**, while Table **10** contains the details by provinces for the latest year. The amounts collected in income war tax and business profits war tax are given by provinces for the two latest fiscal years in Table **11.** (See also Tables **33** to **35** of this chapter.)

8.—War Tax Revenue Received during the fiscal years ended Mar. 31, 1915-1930.

Year.	Banks.	Trust and Loan Companies.	Insurance Companies.	Business Profits.	Income Tax.	Customs and Excise.[1]	Total War Tax Revenue.
	$	$	$	$	$	$	$
1915	-	-	-	-	-	98,057	98,057
1916	1,300,447	324,250	459,247	-	-	1,536,838	3,620,782
1917	1,114,023	202,415	419,699	12,506,517	-	2,059,584	16,302,238
1918	1,115,758	269,129	496,540	21,271,084	-	2,227,390	25,379,901
1919	1,099,764	323,340	546,114	32,970,062	9,349,720	11,888,508	56,177,508
1920	1,170,223	274,216	638,731	44,145,184	20,263,740	15,587,707	82,079,801
1921	1,257,534	293,802	807,667	40,841,401	46,381,824	78,803,099	168,385,327
1922	1,293,697	283,994	749,959	22,815,667	78,684,355	73,656,489	177,484,161
1923	1,244,437	312,392	852,328	13,031,462	59,711,538	106,482,718	181,634,875
1924	1,236,957	308,632	857,587	4,752,681	54,204,028	120,676,376	182,036,261
1925	1,217,754	315,315	867,902	2,704,427	56,248,043	85,810,717	147,164,158
1926	1,176,869	326,714	950,221	1,173,449	55,571,962	98,097,106	157,296,321
1927	1,174,665	335,368	947,830	710,102	47,386,309	105,613,160	156,167,434
1928	1,224,645	345,430	999,003	956,031	56,571,047	90,222,931	150,319,087
1929	1,242,399	7,641	894,864	455,232	59,422,323	83,007,283	145,029,742
1930	1,408,420	[2]	74,416	173,300	69,020,726	63,409,143	134,086,005[3]
Totals	**18,277,592**	**3,922,638**[3]	**10,562,108**	**198,506,599**	**612,815,615**	**939,177,106**	**1,783,261,658**[3]

[1] Amounts paid in to Receiver-General.

[2] There were refunds in excess of revenue, of $626 for 1930.

[3] This total does not take into account refunds of $626 on account of Trust and Loan Companies for 1930.

9.—Summary of Excise War Taxes Collected by the Department of Customs and Excise (now the Department of National Revenue) during the fiscal years ended Mar. 31, 1925-1930.

(Accrued Revenue.)

Item.	1925.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$	$
Licences	36,211	35,666	37,036	35,839	38,690	44,530
Stamps	8,691,332	9,278,589	8,880,517	4,411,086	3,867,810	5,559,844
Matches	2,403,924	2,191,999	2,874,728	2,148,431	1,502,395	1,794,556
Automobiles	2,410,879	3,474,991	2,208,582	838,286	1,025,661	742,471
Confectionery	-	-	-	-	-	-
Playing cards	203,282	277,929	286,022	224,860	268,752	291,184
Cigars	323,557	321,807	311,701	320,627	328,764	329,217
Wines	66,840	95,459	118,080	170,987	211,717	299,466
Ale, beer and porter	4,669,337	5,466,628	5,198,503	6,320,590	7,953,133	7,475,125
Beverages and carbonic acid gas	38,938	38,279	27,550	-	-	-
Transportation	2,420,930	2,404,371	2,452,780	2,534,982	2,647,801	650,172
Embossed cheques	309,345	345,013	368,238	174,353	13,276	3,973
Embossed cheques (Departmental)	311,357	149,585	76,521	174,957	195,201	186,240
Penalties and interest	-	-	-	146,783	183,934	169,452
Sales, domestic	51,253,498	57,253,867	63,940,130	55,379,084	49,151,636	34,936,376
Other domestic war tax revenue	13,853	-	-	-	-	-
Domestic Totals	**73,153,281**	**81,334,184**	**86,780,388**	**72,880,865**	**67,388,770**	**52,482,606**
Importations—						
Sales	15,453,872	16,771,226	18,365,540	16,721,160	14,495,036	9,922,325
Excise	723,685	1,122,924	1,577,400	2,060,061	2,130,360	1,748,665
Gross Totals, Excise Taxes	**89,330,838**[1]	**99,228,334**[1]	**106,723,328**[1]	**91,662,086**[1]	**84,014,166**[1]	**64,153,596**[1]

[1] Includes refunds, etc., of $3,520,120 in 1925, $1,131,229 in 1926. $1.110.168 in 1927. $1.439.155 in 1928, $1,006,883 in 1929 and $744,453 in 1930.

10.—Excise War Taxes Collected by the Department of National Revenue, by Provinces, during the fiscal year ended Mar. 31, 1930.

(Accrued Revenue.)

Province.	Licences.	Stamps.	Matches.	Automobiles.	Sales.
	$	$	$	$	$
Prince Edward Island	306	10,844	–	–	15,465
Nova Scotia	1,190	79,429	–	440	570,749
New Brunswick	1,230	59,714	–	591	357,564
Quebec	13,429	1,598,777	725,906	15,572	11,380,198
Ontario	20,063	2,655,021	1,068,650	718,216	19,178,962
Manitoba	2,140	197,619	–	767	1,134,349
Saskatchewan	478	187,619	–	–	315,909
Alberta	1,562	306,912	–	625	565,753
British Columbia	4,128	463,049	–	6,260	1,416,702
Yukon	4	860	–	–	725
Totals	**44,530**	**5,559,844**	**1,794,556**	**742,471**	**34,936,376**

Province.	Playing Cards.	Cigars.	Wines.	Ale, Beer and Porter.	Transportation.
	$	$	$	$	$
Prince Edward Island	–	–	–	–	–
Nova Scotia	–	116	–	34,713	1,683
New Brunswick	–	118	–	26,202	103
Quebec	131,184	175,328	–	3,784,565	571,942
Ontario	160,000	148,431	288,075	1,764,459	67,032
Manitoba	–	–	933	522,346	1,436
Saskatchewan	–	–	–	211,260	–
Alberta	–	268	–	629,716	2,663
British Columbia	–	4,956	10,458	501,864	5,313
Yukon	–	–	–	–	–
Totals	**291,184**	**329,217**	**299,466**	**7,475,125**	**650,172**

Province.	Embossed Cheques.	Penalties and Interest.	Domestic Total.	Importations.		Total.
				Sales.	Excise.	
	$	$	$	$	$	$
Prince Edward Island	–	336	26,951	14,912	4,870	46,733
Nova Scotia	44	751	689,115	191,866	52,195	933,176
New Brunswick	–	1,450	446,973	240,876	30,366	718,215
Quebec	1,418	60,712	18,459,030	2,467,430	312,266	21,238,726
Ontario	1,535	77,811	26,148,257	4,187,403	918,031	31,253,691
Manitoba	406	4,316	1,864,312	795,072	117,421	2,776,805
Saskatchewan	101	838	716,204	370,780	59,612	1,146,596
Alberta	18	7,686	1,515,203	462,440	90,225	2,067,868
British Columbia	451	15,552	2,428,732	1,181,072	163,208	3,773,012
Yukon	–	–	1,589	9,677	471	11,737
British Post Office parcels	–	–	–	797	–	797
Embossed cheques (Departmental)	186,240	–	186,240	–	–	186,240
Totals	**190,213**	**169,452**	**52,482,606**	**9,922,325**	**1,748,665**	**64,153,596**[1]

[1] Includes refunds of $744,453.

11.—Amounts Collected under the Income War Tax Act and the Business Profits War Tax Act, by Provinces, fiscal years ended Mar. 31, 1929 and 1930.

Province.	1929.			1930.		
	Income War Tax.	Busines Profits War Tax.	Total.	Income War Tax.	Business Profits War Tax.	Total.
	$	$	$	$	$	$
Prince Edward Island	38,654	400	39,054	45,179	-	45,179
Nova Scotia	593,349	21,651	615,000	647,213	689	647,902
New Brunswick	553,686	6,199	559,885	611,978	-	611,978
Quebec	19,822,209	168,179	19,990,388	23,308,394	32,353	23,340,747
Ontario	28,690,232	162,262	28,852,494	33,128,632	124,582	33,253,214
Manitoba	3,272,606	9,629	3,282,235	3,707,769	10,356	3,718,125
Saskatchewan	894,494	51,082	945,576	1,037,406	955	1,038,360
Alberta	1,405,606	4,390	1,409,996	2,000,979	3,541	2,004,521
British Columbia	4,123,203	31,440	4,154,643	4,495,649	825	4,496,474
Yukon	28,233	-	28,233	19,857	-	19,857
Head Office	-	-	-	17,670	-	17,670
Totals	**59,422,272**	**455,232**	**59,877,504**	**69,020,726**	**173,301**	**69,194,027**

Subsection 4.—Inland Revenue.

Under the Inland Revenue Act (R.S. 1906, c. 5), the Department of Inland Revenue until 1918 had the control and management of standard weights and measures and of the collection of excise duties, of stamp duties, internal taxes, bridge and ferry tolls and rents. It administered the statutes which dealt with the adulteration of food and other articles, electricity and gas inspection, patent medicines, petroleum, naphtha and the analysis of fertilizers and feeding stuffs. This Department also established the food standards, which were put into force by Orders in Council under the authority of section 26 of the Adulteration Act. By Order in Council dated May 18, 1918, the Department of Customs and the Department of Inland Revenue were amalgamated and combined under the name of the Department of Customs and Inland Revenue, under one Minister of the Crown. By Order in Council dated June 3, 1918, the administration of the Gas, Electric Light and Weights and Measures Inspection Acts, the Adulteration of Food, Commercial Feeding Stuffs, Fertilizers, Proprietary and Patent Medicine, and Inspection of Water Meters Acts was transferred to the Department of Trade and Commerce, as from Sept. 1, 1918. On June 4, 1921, the Department of Customs and Inland Revenue was consolidated as the Department of Customs and Excise (11-12 George V, c. 26).

As from April 1, 1927, the name of this Department, which collects the great bulk of the revenue of the Dominion, was changed to Department of National Revenue by authority of 17 Geo. V, c. 34. This Act provides for three chief departmental officers—the Commissioner of Customs, the Commissioner of Excise and the Commissioner of Income Tax, while an Assistant Commissioner of Customs may also be appointed. In the fiscal year ended Mar. 31, 1930, the gross amount of customs duties collected by the Department was $199,011,628, as compared with $200,479,505 in 1929, $171,872,768 in 1928 and $158,966,367 in 1927. The total of excise duties and excise war taxes collected in the fiscal year ended Mar. 31, 1930, was $129,822,444, as compared with $148,374,269 in 1929 and $149,724,171 in 1928. The total of income tax collected in the fiscal year ended Mar. 31, 1930, was $69,020,726, and of business profits war tax $173,301.

Canadian Excise Tariff.—The following is a statement of the Canadian excise tariff, as existing on July 1, 1930:—

Spirits—	
When made from raw grain, per proof gal..	$ 9·00
When made from malted barley "	9·02
When made from imported molasses or other sweetened matter free of customs duty, per proof gal	9·03
Malt, per lb	0·03
Malt, imported, crushed or ground, per lb...	0·05
Malt liquor, when made in whole or part from any other substance than malt, per gal	0·15

Tobacco, per lb	$ 0·20
Cigarettes, weighing not more than 3 lb. per thousand, per thousand	6·00
Cigarettes, weighing more than 3 lb. per thousand, per thousand	11·00
Foreign raw leaf tobacco, unstemmed, per standard lb	0·40
Foreign raw leaf tobacco, stemmed, per standard lb	0·60
Canada twist tobacco, per lb	0·20
Snuff, per lb	0·20
Cigars, per thousand	3·00

When, however, any person is licensed by the Minister of National Revenue to manufacture patent and proprietary medicines, extracts, essences and pharmaceutical preparations by the use of spirits in bond, subject to the Excise Act and regulations thereunder, the following duties of excise are collected:—when made from raw grain, $2.40 per proof gallon; when made from malted barley, $2.42 per proof gallon; when made from imported molasses or other sweetened matter free of customs duty, $2.43 per proof gallon. Druggists, licensed by the Minister of National Revenue to prepare prescriptions for medicines and pharmaceutical preparations, are also allowed to use limited quantities of spirits, testing not less than 50 p.c. over proof, on payment of the above lower manufacturers' rates of duty. A drawback of 99 p.c. of the duty may be granted when domestic spirits, testing not less than 50 p.c. over proof, are delivered in limited quantities to universities, scientific or research laboratories, or to hospitals for medicinal purposes only.

Revenue from Excise Duties.—The inland revenue collected from excise duties, other than war taxes, is shown by items for the last six fiscal years in Table **12.** Tobacco, including cigarettes, is shown by the figures to be supplying about 60 p.c. of the revenue from excise duties.

12.—Details of Excise Duties Collected during the fiscal years ended Mar. 31, 1925-1930.

(Accrued revenues as shown in the Report of the Commissioner of Excise.)

Item.	1925.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$	$
Spirits	9,393,661	10,932,578	13,904,584	18,267,537	19,344,599	18,534,658
Malt liquor	107.734	113,933	223,833	239,245	351,440	347,648
Malt	3,540,621	3,840.774	3,811,557	4,277,066	4,756,945	4,495,651
Tobacco	25,421,602	27,919,051	30,638,418	34,702,359	39,307,618	41,671,417
Cigars	516,606	539,300	536,845	549,896	576,883	593,052
Acetic acid	100	100	150	150	150	150
Manufactures in bond	17,675	17,250	17,350	17.700	17,020	17,950
Other receipts	7,344	7,245	7,176	8,170	7,673	8,322
Totals	**39,005,343**	**43,370,231**	**49,139,913**	**58,062,123**	**64,362,328**	**65,668,848**

Statistics of Licences and Distillation.—As a by-product of the collection of excise duties, statistics are compiled of excise licences issued and of distillation; figures for recent years are given in Tables **13** and **14.**

13.—Number of Excise Licences Issued during the fiscal years ended Mar. 31, 1924-1930.

Description.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
Distillers	14	16	18	20	23	25	28
Brewers and maltsters	75	79	87	93	93	95	94
Tobacco manufacturers	73	70	65	56	58	57	56
Cigar manufacturers	126	113	110	106	90	83	82
Petroleum refineries	16	18	21	21	22	21	22
Manufacturers in Bond—							
Perfumes, pharmaceutical preparations, etc.	371	348	343	345	346	330	338
Chemical stills	166	164	156	151	152	144	135
Wood alcohol manufacturers	6	7	8	6	6	6	8
Malt vinegar brewers	3	3	3	3	3	4	4
Still manufacturers and importers	16	17	18	24	26	24	29
Acetic acid manufacturers	2	2	2	3	3	3	3
Bonded warehouses	50	46	41	42	62	51	49
Rectifiers	1	1	1	–	–	–	–
Compounders	2	2	2	3	3	4	6
Canadian leaf stemmers	–	–	–	8	9	10	10

14.—Statistics of Distillation for the fiscal years ended Mar. 31, 1925-1930.

Schedule.	1925.	1926.	1927.	1928.	1929.	1930.
Licences issued ... No.	16	18	20	23	25	28
Licence fees ... $	4,125	4,500	5,000	6.125	6,625	7,750
Grain, etc., for Distillation—						
Malt ... lb.	8,549,177	6,109,455	12,650,807	25,116,100	39,170,372	42,064,219
Indian corn ... "	48,524,438	37,496,955	62,478,906	78,871,584	106,112,316	114,942,991
Rye ... "	18,730,531	12,506,822	21,129,081	53,617,695	80,449.536	78,075,195
Oats and other grain ... "	205,412	380,385	283,950	139,184	228,102	257,510
Wheat ... "	222,160	46,800	1,616,020	249,660	–	–
Rice ... "	–	–	–	–	84,523	58,330
Total grain used ... "	76,231,718	56,540,417	98,158,764	157,994,223	226,044,849	235,398,245
Molasses used ... "	56,277.470	45,051,831	68,847,431	49,801,495	78,099,601	61,036,607
Proof spirits manufactured ... proof gal.	7,287,691	5,434,329	9,121,051	11,596,200	16,816,312	16,813,433
Duty collected ex-manufactory on deficiencies and assessment—						
Proof gallons	3,795	6,153	1,585	3,817	131	312
Amount ... $	34,163	55,480	14,272	34,422	1,178	2,813
Total duty collected plus licence fees ... $	38,288	59,980	19,272	40,547	7,803	10,563

Consumption of Alcohol and Tobacco.—In Tables **15** and **16** are shown the quantities of spirits, malt liquor, malt, cigars, cigarettes and tobacco taken out of bond for consumption in the fiscal years ended 1901 to 1930, and the annual consumption of spirits, beer, wine and tobacco per head of population, together with the duties paid in the same years.

Between 1920 and 1930, the consumption of cigars fell from 270,089,761 to 196,251,957 and of tobacco from 23,049,012 lb. to 22,195,455 lb. On the other hand, the consumption of cigarettes increased from 2,440,982,912 to 5,035,878,655.

Between 1923 and 1930 the consumption of spirits (exclusive of imported spirits) has risen from 729,678 gal. to 1,926,063 gal., and of malt liquor from 36,789,195 gal. to 62,992,156 gal.

15.—Quantities of Spirits, Malt Liquor, Malt and Tobacco, Taken Out of Bond for Consumption, in the fiscal years ended 1901-1930.

(For earlier years see 1916-17 Year Book, p. 528.)

Fiscal Year.	Spirits.[1]	Malt Liquor.	Malt.	Cigars.	Cigarettes.	Tobacco.[3]
	gal.	gal.	lb.	No.	No.	lb.
1901	2,707,919	25,108,254	64,723,616	141,096,889	121,383,584	11,330,345
1902	2,933,183	27,623,767	71,440,519	151,780,516	134,236,034	11,569,632
1903	2,979,268	25,755,154	67,608,157	168,290,422	176,435,240	12,507,944
1904	3,481,287	27,335,985	75,430,347	180,485,202	211,302,041	12,574,524
1905	3,112,843	30,330,370	75,517,352	186,110,777	250,860,387	13,444,611
1906	3,545,785	33,250,637	85,699,102	193,827,342	269,334,939	14,517,911
1907[2]	3,033,439	26,505,831	69,176,871	154,253,260	266,377,710	11,318,538
1908	3,918,657	38,800,380	98,579,733	200,133,255	384,809,344	15,971,609
1909	3,627,266	37,317,964	92,631,306	192,105,371	356,756,130	17,217,710
1910	3,777,156	38,558,210	95,166,134	205,820,851	451,095,138	17,961,279
1911	4,146,452	41,752,448	101,525,430	227,585,692	585,935,370	18,903,322
1912	4,562,382	47,518,647	114,029,523	252,718,242	782,663,841	21,419,046
1913	4,999,937	52,314,400	123,920,607	294,772,933	977,743,301	22,371,636
1914	4,762,618	56,060,846	133,794,639	288,219,892	1,166,023,170	22,248,760
1915	4,021,090	47,963,225	111,037,743	236,866,542	1,090,125,936	21,180,857
1916	3,629,324	39,638,877	89,476,590	207,647,808	1,082,324,710	20,698,241
1917	4,118,147	34,827,284	78,815,746	239,752,252	1,307,276,750	20,735,080
1918	4,591,972	28,442,427	59,626,049	254,445,945	1,664,709,933	21,780,168
1919	2,941,108	26,024,117	49,184,747	221,087,110	1,553,468,890	19,980,446
1920	3,816,124	36,863,867	69,975,631	270,089,761	2,440,982,912	23,049,012
1921	2,816,071	35,509,757	82,210,351	214,262,197	2,439,832,278	19,389,268
1922	730,474	38,404,346	87,561,176	181,255,533	2,450,397,154	20,528,228
1923	729,678	36,789,195	84,922,024	183,965,151	1,917,773,908	22,072,709
1924	899,291	43,717,823	105,446,169	198,042,909	2,420,052,731	21,172,307
1925	910,316	48,103,177	118,237,385	168,097,387	2,531,693,150	20,870,651
1926	1,082,785	52,443,505	127,789,729	174,363,188	2,883,448,160	21,595,483
1927	1,404,111	51,726,251	126,967,976	175,335,838	3,333,999,860	21,589,772
1928	1,896,357	58,391,360	142,543,947	181,730,614	3,927,022,325	21,907,747
1929	2,016,802	65,719,129	158,490,019	190,981,166	4,607,500,425	21,973,221
1930	1,926,063	62,992,156	149,746,711	196,251,957	5,035,878,655	22,195,455

[1] Exclusive of imported spirits. [2] Nine months. [3] Including snuff.

16.—Consumption per head of Spirits, Wine, Beer and Tobacco, and Excise and Customs Duties per head on these Commodities in the fiscal years ended 1901-1930.

(For earlier years see 1916-17 Year Book, p. 529.)

Fiscal Year.	Quantity.				Duty.			
	Spirits.[1]	Beer.	Wines.	Tobacco.	Spirits.[1]	Beer.	Wines.	Tobacco.
	gal.	gal.	gal.	lb.	$	$	$	$
1901	·749	4·738	·094	2·440	1·574	·195	·047	·864
1902	·773	5·067	·093	2·438	1·631	·211	·048	·902
1903	·798	4·630	·097	2·595	1·766	·200	·049	·967
1904	·897	4·789	·095	2·577	1·913	·217	·049	1·005
1905	·802	5·164	·096	2·680	1·898	·214	·049	1·036
1906	·869	5·512	·099	2·797	1·879	·238	·052	1·100
1907	·723	4·323	·074	2·167	2·035	·257	·054	1·317
1908	·926	6·145	·106	2·947	1·965	·268	·057	1·194
1909	·849	5·707	·095	3·018	1·794	·241	·050	1·101
1910	·873	5·713	·110	3·090	1·843	·242	·057	1·059
1911	·933	5·958	·119	3·183	1·988	·257	·059	1·157
1912	1·032	6·649	·122	3·570	2·170	·288	·063	1·336
1913	1·136	7·220	·145	3·753	2·340	·320	·076	1·462
1914	1·103	7·558	·138	3·721	2·249	·328	·069	1·438
1915	·886	6·234	·102	3·411	2·086	·379	·051	1·361
1916	·739	4·974	·064	3·238	1·951	·362	·033	1·454
1917	·703	4·279	·065	3·307	1·788	·304	·033	1·520
1918	·682	3·425	·063	3·520	1·810	·228	·036	1·698
1919	·395	3·070	·026	3·167	·942	·170	·015	2·520
1920	·608	4·275	·083	3·832	1·586	·243	·056	3·541
1921	·723	4·018	·078	3·283	2·256	·292	·074	3·245
1922	·231	4·316	·052	3·333	1·859	·308	·049	3·254
1923	·204	4·081	·038	3·286	2·006	·287	·057	2·883
1924	·235	4·787	·062	3·323	2·229	·372	·081	2·902
1925	·225	5·200	·073	3·252	2·109	·380	·086	2·884
1926	·267	5·601	·074	3·407	2·505	·405	·092	3·118
1927	·304	5·450	·090	3·503	2·982	·413	·106	3·395
1928	·425	6·070	·122	3·676	4·161	·457	·170	3·726
1929	·458	6·829	·120	3·953	4·486	·510	·177	4·210
1930	·440	6·367	·130	4·001	4·120	·477	·137	4·332

[1] Includes imported spirits.

Subsection 5.—Provincial Subsidies.

Tables **17** and **18** show the aggregate amounts of the subsidies and other payments made by the Dominion to the Provincial Governments for each of the fiscal years ended from 1925 to 1930 (Table **17**), and the totals paid from Confederation to 1930 (Table **18**). The provincial subsidies payable by the Dominion Government were originally settled by the British North America Act, 1867 (30 and 31 Vict., c. 3, s. 118) but were revised by the British North America Act, 1907 (7 Edw. VII, c. 11). Under the revised settlement each Provincial Government receives: (a) a fixed grant according to population and (b) a grant at the rate of 80 cents per head of the population up to 2,500,000, and at the rate of 60 cents per head of so much of the population as exceeds that number. The province of British Columbia received an additional grant of $100,000 per annum for a period of 10 years from 1907.[1] An additional grant of $100,000 per annum is payable to Prince Edward Island under an Act of 1912 (2 Geo. V, c. 42), and the payments to Manitoba were revised by the Extension of Boundaries (Manitoba) Act, 1912 (2 Geo. V., c. 32). Other payments to the Provincial Governments by the Dominion Government consist of special grants, such as compensation for lands, allowances for buildings, allowance in lieu of debt, etc.

17.—Subsidies of Dominion to Provincial Governments, fiscal years ended 1925-1930.

Province.	1925.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$	$
Prince Edward Island	381,932	381,932	381,932	381,932[1]	381,932[1]	381,932[1]
Nova Scotia	661,854	661,841	661,841	661,841[1]	661,841[1]	661,841[1]
New Brunswick	666,766	666,766	666,766	666,766[1]	666,766[1]	666,766[1]
Quebec	2,256,420	2,256,420	2,256,420	2,256,420	2,256,420	2,256,420
Ontario	2,642,612	2,642,612	2,642,612	2,642,612	2,642,612	2,642,612
Manitoba	1,501,551	1,501,551	1,491,836	1,491,836	1,500,214	1,508,591
Saskatchewan	1,757,005	1,850,755	2,032,575	2,032,575	2,047,935	2,063,295
Alberta	1,674,435	1,674,435	1,643,942	1,643,942	1,657,188	1,576,685
British Columbia	738,816	738,816	738,816	738,816	738,817	738,817
Totals	**12,281,391**	**12,375,128**	**12,516,740**	**12,516,740**	**12,553,725**	**12,496,959**

[1] For the years 1928, 1929 and 1930 special grants, pending consideration of provincial subsidies, were granted to Nova Scotia, New Brunswick and Prince Edward Island as follows:—Nova Scotia $875,000, New Brunswick $600,000, Prince Edward Island $125,000.

18.—Total of Subsidy Allowances from July 1, 1867 to Mar. 31, 1930.

Province.	Allowances for Government.	Allowances per head of Population.	Special Grants.[2]	Interest on Debt Allowances[3]	Total.
	$	$	$	$	$
Prince Edward Island	3,320,000	4,876,392	4,040,785	2,408,897	14,646,074
Nova Scotia	6,770,000	21,662,110	826,980	2,971,625	32,230,715
New Brunswick	6,140,000	16,488,050	9,180,000	1,291,775	33,099,825
Quebec	8,320,000	73,868,914	–	4,686,950	86,875,864
Ontario	8,720,000	92,141,761	–	4,316,446	105,178,207
Manitoba	5,975,000	14,529,107	12,827,098	11,824,283	45,156,088
Saskatchewan	4,616,667	12,387,324	14,156,250	10,134,375	41,294,616
Alberta	4,396,667	9,663,073	12,843,750	10,134,375	37,037,865
British Columbia	5,370,000	10,091,470	6,900,000	1,729,696	24,091,166
Totals	**53,628,334**	**255,708,201**	**60,775,463**	**49,498,422**	**419,610,420**

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[1] See Canada Year Book, 1907, pp. xxxiii-iv.

[2] Compensation for lands and allowances for buildings.

[3] Allowances in lieu of debt.

Subsection 6.—National Debt.

The gross national debt of Canada on Mar. 31, 1914, was $544,391,369, as against assets of $208,394,519, leaving a net debt of $335,996,850. Comparatively small as was this debt, it was a debt incurred almost altogether either for public works of general utility which, like the Intercolonial and transcontinental railways and the canal system, remained assets, though perhaps not realizable assets of the nation, or was expended as subsidies to enterprises, which, like the Canadian Pacific Railway, though not government-owned, assisted greatly in extending the area of settlement as well as the productive and, therefore, the taxable capacity of the country. Broadly speaking, it was a debt incurred for productive purposes. Also, it was mainly held outside the country, the principal of the Dominion funded debt payable in London being $302,842,485 on Mar. 31, 1914, as against only $717,453 payable in Canada.

The great changes brought about in our national debt during the 16 years from 1914 to 1930 have been: (1) the enormous increase in net debt from $335,996,850 to $2,177,763,959; (2) the gross debt, having been largely incurred for war purposes, is not represented by corresponding assets; (3) the debt is now mainly held in Canada, $1,804,977,029 being payable in Canada at Mar. 31, 1930; (4) the average rate of interest paid on interest-bearing debt has been considerably increased. The interest-bearing debt on Mar. 31, 1914, was $416,892,576, with an annual interest charge of $14,687,797, the average interest rate being thus only 3·52 p.c. On Mar. 31, 1922, the interest-bearing debt was $2,669,967,110, with an interest charge of $137,881,774, the average rate of interest paid being 5·164 p.c. Had the rate of interest in 1922 been the same as in 1914, the interest charge in that year would have been some $44,000,000 less than it actually was. Since 1922 the maturity of certain loans has enabled the Government to refund at lower and more normal peace-time rates of interest with the result that the average rate of interest payable on the national debt has been slowly declining, standing at 4·967 p.c. on Mar. 31, 1930. Further, in these same eight years the principal sum of the interest-bearing debt has been reduced by $264,132,389. The net result of these two achievements is that the annual interest charge has, in the last eight years, been reduced by the substantial amount of $18,367,541.

The *interest-bearing* debt, the annual interest charge upon that debt and the average rate of interest, as at the end of each of the last eleven fiscal years, have been as follows:—

Fiscal Year.	Bonds, Debentures and Treasury Bills.	Annual Interest Charges on Bonds, Debentures and Treasury Bills.	Savings Bank Deposits, Trust and other Funds.	Annual Interest on Savings Bank Deposits and other Funds.	Total Interest Bearing Debt.[1]	Annual Interest Charge.	Average Rate of Interest.
	$	$	$	$	$	$	p.c.
1920	2,596,816,821	134,559,302	107,038,317	4,275,480	2,703,855,138	138,834,782	5·134
1921	2,520,997,021	130,416,007	107,345,348	4,429,302	2,628,342,369	134,845,309	5·130
1922	2,564,587,671	133,482,113	105,379,439	4,399,661	2,669,967,110	137,881,774	5·164
1923	2,547,105,821	131,476,511	106,763,391	4,531,156	2,653,869,212	136,007,667	5·125
1924	2,504,033,820	128,571,337	110,113,766	4,626,715	2,614,147,586	133,198,052	5·092
1925	2,503,763,169	125,928,071	113,943,282	4,758,780	2,617,706,451	130,686,851	4·992
1926	2,484,410,336	125,108,738	119,205,393	4,977,889	2,603,615,729	130,086,627	4·996
1927	2,439,340,736	123,399,911	126,310,527	5,274,429	2,565,651,263	128,674,340	5·015
1928	2,377,581,086	119,479,400	136,485,482	5,721,330	2,514,066,568	125,200,730	4·980
1929	2,325,413,986	116,843,934	145,780,369	6,156,036	2,471,194,355	122,999,970	4·977
1930	2,250,837,286	112,942,215	154,997,435	6,572,018	2,405,834,721	119,514,233	4·967

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[1] The total of interest-bearing debt, as here given, includes bonds purchased and held by the Treasury for sinking funds.

A summary account of the loans effected between 1914 and 1930 follows.

War and Renewal Loans.—The first Dominion domestic war loan was raised in November, 1915, under authority of c. 23 of the Statutes of that year (5 Geo. V, c. 23). It originally consisted of $50,000,000 5 p.c. tax-exempt 10-year gold bonds, issued at 97½ and maturing Dec. 1, 1925. As the issue was heavily over-subscribed (public subscriptions by 24,862 subscribers $78,729,500, bank subscriptions $25,000,000), and the extra money was needed, the Government increased the amount of the loan to $100,000,000. In July, 1915, $25,000,000 of 1-year and $20,000,000 of 2-year 5 p.c. notes had been floated in the United States, with the object of stabilizing exchange and relieving the pressure on London.

In September 1916, the second Canadian domestic war loan of $100,000,000 5 p.c. tax-exempt 15-year gold bonds was issued and again over-subscribed (public subscriptions by 34,526 subscribers $151,444,800, bank subscriptions $50,000,000). In March of that year, a loan of $75,000,000 in 5, 10, and 15-year 5 p.c. bonds had been floated in New York.

The third Canadian domestic war loan, composed of $150,000,000 5 p.c. tax-exempt 20-year gold bonds, was issued at 96 in March, 1917, and was again over-subscribed, 40,800 public subscribers applying for $200,768,000, while the banks subscribed $60,000,000. In August, 1917, $100,000,000 of 5 p.c. 2-year notes were issued in New York at 98.

The fourth domestic war loan (First Victory Loan) was issued in November 1917. For the first time subscriptions as low as $50 were received towards an issue of $150,000,000 5½ p.c. 5, 10 and 20-year gold bonds, the Minister of Finance reserving the right to allot the whole or any part of the amount subscribed in excess of $150,000,000 The subscribers numbered 820,035 and the subscriptions totalled $398,000,000, or about $50 per head of the then population of Canada.

The fifth domestic war loan (Second Victory Loan) of $300,000,000 5½ p.c. 5 and 15-year tax-exempt gold bonds, was issued at 100 and interest as of date Nov. 1, 1918; the end of the war, then clearly in sight, stimulated subscriptions. The applications numbered 1,067,879 and subscriptions totalled $660,000,000.

The sixth domestic war loan (Third Victory Loan) was raised at 100 and interest in November, 1919. It consisted of $300,000,000 taxable 5-year and 15-year 5½ p.c. gold bonds. The subscriptions amounted to $678,000,000.

A 5½ p.c. renewal loan, aggregating $114,464,150 and due in 1927 and 1932, was floated in Canada in the autumn of 1922 to pay off the maturing 5-year Victory Loan bonds of 1917. Largely for the same purpose, a $100,000,000 5 p.c. loan was issued in New York.

In the autumn of 1923 a refunding loan of $20,000,000 at 5 p.c. was issued in Canada to pay off the maturing 5-year Victory Loan bonds of 1918.

Refunding operations in 1924, to retire $107,955,650 5-year Victory bonds, issued in 1919, and to redeem treasury bills held by banks, took the form of a domestic issue of $50,000,000 4½ p.c. 20-year bonds and $35,000,000 4 p.c. 2-year notes, and a short term issue in the New York market of $90,000,000 4 p.c. 1-year treasury notes. An issue of $24,000,000 in 4 p.c. 1, 2 and 3-year notes ($8,000,000 of each) was also made in November, 1924.

A refunding loan of $75,000,000 at 4½ p.c. due 1940 was issued in Canada in September, 1925, and 4 p.c. 1-year notes amounting to $70,000,000 in New York. Securities redeemed included £5,000,000 4½ p.c. bonds due in London, $90,000,000 4 p.c. notes due in New York, also $8,000,000 4 p.c. notes and $42,014,500 5 p.c. bonds of the 1915 war loan due in Canada.

In 1926, refunding issues dated Feb. 1 were made as follows: In Canada, $20,000,000 4½ p.c. 4-year bonds and $45,000,000 4½ p.c. 20-year bonds; in New York, $40,000,000 4½ p.c. 10-year bonds. Maturing securities included $25,000,000 5 p.c. bonds due in New York April 1, and $70,000,000 4 p.c. notes called for redemption April 1.

In 1927 $45,000,000 of 4 p.c. treasury notes due Dec. 1, 1930, were issued in order to retire maturing 5½ p.c. obligations.[1]

The general result of these loans has been that in 1930 the great bulk of the Canadian national debt was owed to the Canadian people. At the end of the fiscal year 1929-30 the net funded debt of Canada payable in London was $257,185,700, the debt payable in New York, $165,965,900, while the net funded debt payable in Canada amounted to no less than $1,804,977,029. The largest creditors of the Dominion Government are within the Dominion itself and, as a consequence, the interest payments made on national debt account outside the country are a relatively small item. Summary and detailed statistics of the national debt as on Mar. 31, 1930, are given with comparative figures for previous years in Tables **19** to **22**, while Table **23** shows the principal and interest of the national debt at Confederation and in each subsequent fiscal year.

[1] This loan was redeemed on the due date.

19.—Summary of the Public Debt of Canada, Mar. 31, 1924-1930.

Item.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$	$	$
Gross debt	2,819,610,470	2,818,066,523	2,768,779,184	2,726,298,717	2,677,137,243	2,647,033,973	2,544,586,411
Active assets	401,827,195	400,628,837	379,048,085	378,464,347	380,287,010	421,529,268	366,822,452
Net Debt	**2,417,783,275**	**2,417,437,686**	**2,389,731,099**	**2,347,834,370**	**2,296,850,233**	**2,225,504,705**	**2,177,763,959**
Interest paid on debt	136,237,872	134,789,604	130,691,493	129,675,367	128,902,945	124,989,950	121,566,213
Interest received on investments	11,916,479	11,332,328	8,535,086	8,559,401	10,937,822	12,227,562	13,518,205

20.—Details of the Assets of the Public Debt of Canada, Mar. 31, 1926-1930.

Item.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$
Cash on hand and in banks	24,811,236	22,182,119	45,829,382	82,410,885	27,991,597
Specie reserve	99,093,810	100,935,933	95,352,703	60,791,334	65,927,474
Advances to banks, provinces, etc.	93,678,049	97,452,299	114,752,859	166,080,660	140,578,126
Advances to Imperial and Foreign Govts.	36,495,929	35,985,138	31,249,720	31,049,720	30,834,720
Advances to Soldier Settlement Board	87,536,094	84,149,967	69,410,199	58,175,573	57,036,174
Miscellaneous current accounts	37,432,967	37,758,891	23,692,147	23,021,087	44,454,361
Totals	**379,048,085**	**378,464,347**	**380,287,010**	**421,529,268**	**366,822,452**

21.—Details of the Gross Liabilities of Canada, Mar. 31, 1926-1930.

Item.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$
Funded debt payable in—					
London	270,962,177[1]	267,649,036[1]	264,230,350[1]	260,768,038[1]	257,185,700[1]
Canada	1,920,128,841[1]	1,941,852,161[1]	1,870,049,325[1]	1,823,839,934[1]	1,804,977,029
New York	280,874,000	225,894,000	225,879,000	220,457,800	165,965,900
Dominion notes	182,583,404	172,167,639	188,631,490	204,501,217	174,326,618
Savings banks	32,830,544	31,922,043	31,103,776	28,375,770	26,086,036
Temporary loans	201,000	201,000	201,000	-	-
Bank Note Circulation Redemption Fund	5,894,254	5,849,030	5,929,219	6,098,583	6,363,362
Trust funds	18,665,350	18,460,169	19,755,617	20,337,483	20,976,277
Province accounts	9,623,817	9,623,816	9,623,817	9,623,817	9,623,817
Miscellaneous	47,015,798	52,679,823	61,733,649	73,031,331	79,081,672
Totals	**2,768,779,185**	**2,726,298,717**	**2,677,137,243**	**2,647,033,973**	**2,544,586,411**

[1] Net figures, with amounts held as sinking funds deducted.

22.—Funded Debt Payable in London, New York and Canada, as at Mar. 31, 1930.

Note.—The temporary loans formerly included in this table have been paid off. (See Table 21.)

Description.	Amount.	Annual Interest Payable Thereon.	Date of Maturity.
PAYABLE IN LONDON.	$	$	
4 per cent loan of 1940-60	93,926,667	3,757,067	Oct. 1, 1960 (on or after Oct. 1, 1940, giving 3 months' notice).
3½ " " of 1884	23,467,206	821,352	On giving 6 months' notice, or June 1, 1934.
3½ " " C.P. Ry. land grant	15,056,007	526,960	July 1, 1938.
3½ " " of 1930-50	137,058,841	4,797,059	July 1, 1950 (on or after July 1, 1930, on giving 6 months' notice).
3 " " of 1888	8,071,230	242,137	July 1, 1938.
3 " " of 1892	18,250,000	547,500	July 1, 1938.
3 " " of 1894	10,950,000	328,500	July 1, 1938.
2½ " " of 1897	4,888,186	122,205	Oct. 1, 1947.
Unpaid debentures	17,236	-	
Gross Totals	**311,685,373**	**11,142,780**	
Less sinking funds	54,499,673	-	
Net Total	**257,185,700**	-	
PAYABLE IN NEW YORK.			
5 per cent bond loan, 1915-1935	874,000	43,700	Aug. 1, 1935.
5 " public service loan, 1916	5,000	-	Overdue.
5 " " "	25,000,000	1,250,000	April 1, 1931.
5 " bond loan, 1922-1952	100,000,000	5,000,000	May 1, 1952.
5½ " " 1919-1929	85,900	-	Overdue.
4½ " ten-year-bonds	40,000,000	1,800,000	Feb. 1, 1936.
5 " two-year notes, due Aug. 1, 1919	1,000	-	Overdue.
Totals	**165,965,900**	**8,093,700**	

22.—Funded Debts Payable in London, New York and Canada, as at Mar. 31, 1930—concluded.

Description.	Amount.	Annual Interest Payable Thereon.	Date of Maturity.
PAYABLE IN CANADA.	$	$	
Provincial notes, Nova Scotia	39,180	–	
Unpaid warrants, Prince Edward Island	550	–	
Compensation to seigneurs	12,140	729	
Compensation to townships	153	8	
Province of New Brunswick, 6 p.c. loan debentures	600	–	Overdue.
Province of Canada, 5 p.c. loan debentures	400	–	"
Dominion stock, issue A, 6 p.c.	4,000	240	—
" B, 3½ p.c.	17,700	620	Various dates.
" C, 3½ p.c.	48,667	1,703	"
Debenture stock, 1919	2,000	–	Overdue.
" 5 p.c. (school lands)	32,620,000	1,631,000	
" 1921	200	–	Overdue.
War Savings Certificates	15,150	–	"
Dominion of Canada Savings Certificates	12,925	–	"
War Savings and Thrift Stamps	91,515	–	"
Dominion of Canada War Loan, 1915-25, 5 p.c.	31,300	–	"
" " 1916-31, 5 p.c.	52,931,600	2,646,580	Oct. 1, 1931.
" " 1917-37, 5 p.c.	90,166,900	4,508,345	Mar. 1, 1937.
Victory Loan, 1917, 5½ p.c., due 1922	95,650	–	Overdue.
" " due 1927	106,300	–	"
" " due 1937	236,299,800	12,996,489	Dec. 1, 1937.
Victory Loan, 1918, 5½ p.c., due 1923	99,750	–	Overdue.
" " due 1933	446,659,950	24,566,297	Nov. 1, 1933.
Victory Loan, 1919, 5½ p.c., due 1924	53,600	–	Overdue.
" " due 1934	511,910,650	28,155,085	Nov. 1, 1934.
Renewal Loan, 1922, 5½ p.c., due 1927	40,100	–	Overdue.
" " due 1932	73,325,150	4,032,883	Nov. 1, 1932.
Refunding Loan, 1923, 5 p.c., due 1928	50,400	–	Overdue.
" " due 1943	147,001,100	7,350,055	Oct. 15, 1943.
Refunding Loan, 1924, 4½ p.c., due 1944	50,000,000	2,250,000	Oct. 15, 1944.
Refunding Loan, 1925, 4½ p.c., due 1940	75,000,000	3,375,000	Sept. 1, 1940.
Refunding Loan, 1926, 4½ p.c., due 1930	11,000	–	Overdue.
Refunding Loan, 1926, 4½ p.c., due 1946	45,000,000	2,025,000	Feb. 1, 1946.
Three Year Treasury Notes, 4 p.c., due Dec. 1, 1930	45,000,000	1,800,000	Dec. 1, 1930.
Gross Totals	**1,806,648,430**	**95,340,034**	
Less sinking funds	1,671,401	–	
Net Total	**1,804,977,029**	–	

In addition to the direct liabilities of the Government of Canada, there are certain indirect liabilities arising out of the guaranteeing of securities for the railways, both before and after their acquisition by the public. The outstanding railway securities guaranteed as to principal and interest amounted on Mar. 31, 1930, to $590,091,292 held by the public and $58,157,952 held by the Minister of Finance. The amount guaranteed as to interest only (Grand Trunk Railway acquisition guarantees) was at the same date $216,207,142.

There were also certain smaller indirect liabilities arising out of the guaranteeing of loans issued by Harbour Commissions, etc., for the improvement of harbour and other transportation facilities. The total of the outstanding indirect obligations created by these loans was $30,735,118 on Mar. 31, 1930.

The list of securities guaranteed by the Dominion Government was, at Mar. 31, 1930, as follows:—

Security.	Amount of Guarantee Authorized.	Amount Outstanding at Mar. 31, 1930.	
		Held by the Public.	Held by the Minister of Finance.
	$	$	$
Railway Securities Guaranteed as to Principal and Interest—			
1. Canadian Northern Ry. Co., 3 p.c. deb. stock, due 1953, £1,923,287	9,359,997	9,359,997	–
2. Canadian Northern Ry. Co., 3½ p.c. deb. stock, due 1958, £1,622,586-19-9	7,896,590	7,896,567	–
3. Canadian Northern Ontario Ry. Co., 3½ p.c. deb. stock, due 1961, £7,350,000	35,770,000	34,229,997	1,540,003
4. Canadian Northern Alberta Ry. Co., 3½ p.c. deb. stock, due 1960, £647,260-5-6	3,150,000	3,149,999	–
5. Grand Trunk Pacific Ry. Co., 3 p.c. bonds, due 1962, £14,000,000	68,040,000	34,992,000	33,048,000
6. Canadian Northern Alberta Ry. Co., 3½ p.c. deb. stock, due 1962, £733,561-12-10	3,570,000	–	3,569,997
7. Canadian Northern Ry. Co., 4 p.c. deb. stock and bonds, due 1934	45,000,000	17,060,333	12,500,000
8. Grand Trunk Pacific Ry. Co., 4 p.c. bonds due 1962, £3,280,000	15,940,800	8,440,848	7,499,952
9. Canadian Northern Ry. Co., 7 p.c. bonds, due 1940	25,000,000	24,793,000	–
10. Grand Trunk Ry. Co., 7 p.c. bonds, due 1940	25,000,000	24,743,000	–
11. Canadian Northern Ry. Co., 6½ p.c. bonds, due 1946	25,000,000	25,000,000	–
12. Grand Trunk Ry. Co., 6 p.c. bonds, due 1936	25,000,000	25,000,000	–
13. Canadian National Ry. Co., 5 p.c. serial equipment bonds, 1923-38	22,500,000	12,750,000	–
14. Canadian National Ry. Co., 5 p.c. bonds, due 1954	50,000,000	50,000,000	–
15. Canadian National Ry. Co., 4½ p.c. bonds, due 1954	26,000,000	26,000,000	–
16. Canadian Northern Ry. Co., 4½ p.c. bonds, due 1935	17,000,000	17,000,000	–
17. Canadian National Ry. Co., 1927, 2 p.c. guar. deb. stock, £7,176,801	34,927,098	31,675,552	–
18. Canadian National Ry. Co., 4½ p.c. gold bonds, due 1957	65,000,000	65,000,000	–
19. Canadian National Ry. Co., 4½ p.c. gold bonds, due 1968	35,000,000	35,000,000	–
20. Canadian National Ry. Co., 5 p.c. gold bonds, due July 1, 1969	60,000,000	60,000,000	–
21. Canadian National Ry. Co., 5 p.c. gold bonds, due Oct. 1, 1969	60,000,000	60,000,000	–
22. Canadian National Ry. Co., 5 p.c. gold bonds, due 1970	18,000,000	18,000,000	–
	677,154.485	590,091,292	58,157,952
Railway Securities Guaranteed as to Interest only—			
23. Grand Trunk Ry. Acquisition Guarantees—			
Grand Trunk 4 p.c. perp. guar. stock, £12,500,000	60,833,333	60,833,333	–
Grand Trunk 5 p.c. perp. deb. stock, £4,270,375	20,782,492	20,782,492	–
Great Western 5 p.c. perp. deb. stock, £2,723,080	13,252,323	13,252,323	–
Grand Trunk 4 p.c. perp. deb. stock, £24,624,455	119,839,014	119,839,014	–
Northern Ry. of Canada, 4 p.c. perp. deb. stock, £308,215	1,499,980	1,499,980	–
	216,207,142	216,207,142	–
Other Securities Guaranteed as to Principal and Interest—			
24. Harbour Commissioners of Montreal, Montreal South Shore Bridge 5 p.c. bonds, due 1969	19,500,000	18,500,000	–
25. Canadian National (West Indies) Steamships Ltd., 5 p.c. bonds, due 1955	10,000,000	9,400,000	–
26. Saint John Harbour Commission—			
(a) Bonded indebtedness of the city of Saint John, assumed by the Commission	1,467,165	1,467,165	–
(b) Debentures of the Commission issued to the city of Saint John, due 1952	667,953	667,953	–
27. New Westminster Harbour Commissioners 4¾ p.c. debentures, due 1948	700,000	700,000	–
	32,335,118	30,735,118	–

23.—Public Debt of Canada, July 1, 1867 to Mar. 31, 1930.

Fiscal Yr.	Total Debt.	Total Assets.	Net Debt.	Net Debt per capita.	Increase or Decrease of Debt during the Year.[1]	Interest Paid on Debt.	Interest Received from Active Assets.	Interest Paid per capita.
	$	$	$	$	$	$	$	$
1867.	93,046,052	17,317,410	75,728,642	22·73	–	–	–	–
1868.	96,896,666	21,139,531	75,757,135	22·47	28,493	4,501,568	126,420	1·33
1869.	112,361,998	36,502,679	75,859,319	22·23	102,184	4,907,014	313,021	1·44
1870.	115,993,706	37,783,964	78,209,742	22·64	2,350,423	5,047,054	383,956	1·46
1871.	115,492,683	37,786,165	77,706,518	22·09	−503,225	5,165,304	554,384	1·47
1872.	122,400,179	40,213,107	82,187,072	22·76	4,480,554	5,257,231	488,042	1·45
1873.	129,743,432	29,894,970	99,848,462	27·22	17,661,390	5,209,206	396,404	1·42
1874.	141,163,551	32,838,587	108,324,964	28·32	8,476,502	5,724,436	610,863	1·50
1875.	151,663,402	35,655,024	116,008,378	29·84	7,683,414	6,590,790	840,887	1·70
1876.	161,204,688	36,653,174	124,551,514	31·54	8,543,136	6,400,902	798,995	1·62
1877.	174,675,835	41,440,526	133,235,309	33·29	8,683,795	6,797,227	717,684	1·69
1878.	174,957,269	34,595,199	140,362,070	34·41	7,126,761	7,048,884	605,774	1·73
1879.	179,483,871	36,493,684	142,990,187	34·49	2,628,117	7,194,734	592,500	1·74
1880.	194,634,441	42,182,852	152,451,589	36·17	9,461,402	7,773,869	834,793	1·84
1881.	199,861,537	44,465,757	155,395,780	35·82	2,944,191	7,594,145	751,513	1·75
1882.	205,365,252	51,703,601	153,661,651	35·05	−1,734,129	7,740,804	914,009	1·76
1883.	202,159,104	43,692,390	158,466,714	35·75	4,805,063	7,668,552	1,001,193	1·73
1884.	242,482,416	60,320,566	182,161,850	40·61	23,695,136	7,700,181	986,698	1·72
1885	264,703,607	68,295,915	196,407,692	43·27	14,245,842	9,419,482	1,997,936	2·08
1886.	273,164,341	50,005,234	223,159,107	48·63	26,751,415[2]	10,137,009	2,299,079	2·21
1887.	273,187,626	45,872,851	227,314,775	49·01	4,155,668	9,682,929	990,887	2·09
1888.	284,513,842	49,982,484	234,531,358	50·03	7,216,583	9,823,313	932,025	2·10
1889.	287,722,063	50,192,021	237,530,042	50·11	2,998,684	10,148,932	1,305,392	2·14
1890.	286,112,295	48,579,083	237,533,212	49·56	3,170	9,656,841	1,082,271	2·01
1891.	289,899,230	52,090,199	237,809,031	49·09	275,819	9,584,137	1,077,228	1·98
1892.	295,333,274	54,201,840	241,131,434	49·32	3,322,403	9,763,978	1,086,420	2·00
1893.	300,054,525	58,373,485	241,681,040	48·96	549,606	9,806,888	1,150,167	1·99
1894.	308,348,023	62,164,994	246,183,029	50·30	4,501,989	10,212,596	1,217,809	2·09
1895.	318,048,755	64,973,828	253,074,927	50·27	6,891,898	10,466,294	1,336,047	2·08
1896.	325,717,537	67,220,104	258,497,433	50·82	5,422,506	10,502,430	1,370,001	2·06
1897.	332,530,131	70,991,535	261,538,596	50·86	3,041,163	10,645,663	1,443,004	2·07
1898.	338,375,984	74,419,585	263,956,399	50·77	2,417,803	10,516,758	1,513,455	2·02
1899.	345,160,903	78,887,456	266,273,447	50·63	2,317,048	10,855,112	1,590,448	2·07
1900.	346,206,980	80,713,173	265,493,807	49·89	−779,640	10,699,645	1,683,051	2·01
1901.	354,732,433	86,252,429	268,480,004	49·69	2,986,197	10,807,955	1,784,834	2·00
1902.	366,358,477	94,529,387	271,829,090	49·13	3,349,086	10,975,935	1,892,224	1·98
1903.	361,344,098	99,737,109	261,606,989	46·11	−10,222,101[3]	11,068,139	2,020,953	1·95
1904.	364,962,512	104,094,793	260,867,719	44·78	−739,270[4]	11,128,637	2,236,256	1·91
1905	377,678,580	111,454,413	266,224,167	44·43	5,356,448	10,630,115	2,105,031	1·77
1906.	392,269,680	125,226,703	267,042,977	43·27	818,810	10,814,697	2,140,312	1·75
1907[6]	379,966,826	116,294,966	263,671,860	41·84	−3,371,117	6,712,771	1,235,746	1·03
1908.	408,207,158	130,246,298	277,960,860	42·82	14,289,000	10,973,597	1,925,569	1·69
1909.	478,535,427	154,605,148	323,930,279	48·38	45,969,419	11,604,584	2,256,643	1·73
1910.	470,663,046	134,394,500	336,268,546	48·61	12,338,267	13,098,161	2,807,165	1·89
1911.	474,941,487	134,899,435	340,042,052	47·18	3,773,506	12,535,851	1,668,773	1·74
1912.	508,338,592	168,419,131	339,919,461	46·15	−122,591	12,259,397	1,281,317	1·66
1913.	483,232,555	168,930,930	314,301,625	41·76	−25,617,836	12,605,882	1,430,511	1·67
1914.	544,391,369	208,394,519	335,996,850	43·68	21,695,225	12,893,505	1,964,541	1·68
1915.	700,473,814	251,097,731	449,376,083	57·16	113,379,233	15,736,743	2,980,247	2·00
1916.	936,987,802	321,831,631	615,156,171	76·55	165,780,088	21,421,585	3,358,210	2·67
1917.	1,382,003,268	502,816,970	879,186,298	107·48	264,030,127	35,802,567	3,094,012	4·36
1918.	1,863,335,899	671,451,836	1,191,884,063	143·11	312,697,765	47,845,585	4,466,724	5·74
1919.	2,676,635,725	1,102,104,692	1,574,531,033	185·60	382,646,970	77,431,432	7,421,002	9·13
1920.	3,041,529,587	792,660,963[5]	2,248,868,624	260·54	674,337,591	107,527,089	17,086,981	12·46
1921.	2,902,482,117	561,603,133[5]	2,340,878,984	266·36	92,010,360	139,551,520	24,815,246	15·88
1922.	2,902,347,137	480,211,335[5]	2,422,135,802	271·89	81,256,817	135,247,849	21,961,513	15·18
1923.	2,888,827,237	435,050,368[5]	2,453,776,869	271·79	31,641,067	137,892,735	16,465,303	15·27
1924.	2,819,610,470	401,827,195[5]	2,417,783,275	264·21	−35,993,594	136,237,872	11,916,479	14·89
1925	2,818,066,523	400,628,837[5]	2,417,437,686	260·82	−345,589	134,789,604	11,332,328	14·54
1926.	2,768,779,184	379,048,085[5]	2,389,731,099	251·51	−27,706,587	130,691,493	8,535,086	13·92
1927.	2,726,298,717	378,464,347[5]	2,347,834,370	246·64	−41,896,729	129,675,367	8,559,401	13·62
1928	2,677,137,243	380,287,010[5]	2,296,850,233	237·82	−50,984,137	128,902,915	10,937,822	13·35
1929	2,647,033,973	421,529,268[5]	2,225,504,705	227·17	−71,345,528	124,989,950	12,227,532	12·76
1930.	2,544,586,411	366,822,452[5]	2,177,763,959	219·21	−47,740,746	121,556,213	13,518,205	12·24

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[1] The minus sign (—) denotes a decrease.
[2] This amount includes $10,199,520, for which land was taken from the Canadian Pacific Ry. Co.
[3] This amount includes $3,305,450, caused by the settlement of accounts with Ontario and Quebec.
[4] This amount takes into account $5,397,503, allowed to Ontario and Quebec under 47 Vict., c. 6.
[5] Active assets only. [6] Nine months.

Section 2.—Provincial Public Finance.[1]

Provincial Governments in Canada are in the position, under section 118 of the British North America Act, 1867 (30 and 31 Vict., c. 3), and the British North America Act, 1907 (7 Edw. VII, c. 11), of having a considerable assured income in subsidies from the Dominion Treasury. Details of these payments are given for recent years in Tables **17** and **18** of this chapter. In addition, through their retention of ownership of their lands, minerals and other natural resources, the provinces which, by the voluntary action of their previously existing Governments, entered Confederation raise considerable revenues through land sales, sales of timber, mining royalties, leases of water powers, etc., while the Prairie Provinces received from the Dominion special grants in lieu of land revenues. However, under recent legislation whereby the Prairie Provinces were given control of their natural resources, all the provinces of the Dominion were placed on an equal footing in the administration of natural resources within their boundaries and as regards revenues accruing therefrom. Further, under section 92 of the British North America Act, Provincial Legislatures are given authority to impose direct taxation within the province for provincial purposes and to borrow money on the sole credit of the province.

While the *laisser faire* school of political thought was predominant throughout the country provincial receipts and expenditures were generally very moderate, as may be seen, both for individual provinces and for the provinces collectively, from Table **24.** From the commencement of the twentieth century, however, the Canadian public, more especially in Ontario and the West, began to demand increased services from the Government, particularly in respect of education, sanitation, and public ownership and operation of public utilities. The performance of these functions necessitated increased revenues, which had in the main to be raised by taxation. Among the chief methods of taxation to be employed has been the taxation of corporations and estates, succession duties showing a considerably increased yield even within the comparatively short period of thirteen years from 1916 to 1929 covered by the statements compiled by the Finance Branch of the Bureau of Statistics.[2] The fact that provincial government is cheaper per head in the *laisser faire* eastern provinces is evident from Table **25,** which gives the per capita ordinary revenue and expenditure for various fiscal years from 1881 to 1930. This, however, is not to be taken as evidence that the larger services rendered to the public in the western provinces are not worth what is being paid for them.

For the half-century subsequent to Confederation, the provincial accounts, published by each Government according to its own system of accounting, were quite incomparable as among the provinces, a fact much regretted by students of provincial public finance. Upon the creation of the Dominion Bureau of Statistics in 1918, its Finance Branch undertook the work of placing the various provincial public accounts on a comparable basis, correlating, for example, the revenues derived from succession duties, taxation of corporations, sales of public lands, royalties on forest, mineral and fisheries products, as well as the expenditures on such services as agriculture, civil government, education and public works. As the result of the Bureau's exhaustive analysis of the provincial public accounts, a summary statement of the ordinary receipts and expenditures of the Provincial Governments appeared for the first time in the 1919 Year Book. In the 1927-28 edition an analysis was given of the public accounts of the provinces for their respective five fiscal years ended 1922 to 1926. The various items of receipts and expenditures were classified under appropriate headings, and a uniform terminology was adopted. The result was given at pp. 836-841 of the 1927-28 Year Book, which presented summary statements of the ordinary receipts and expenditures of each Provincial Government for each of the five provincial fiscal years from 1922 to 1926. From these statements it is possible to ascertain the amounts received and expended in each year under the respective headings for each province, as well as for the provinces collectively. The figures for the years from 1916 to 1920 will be found on pp. 680-685 of the 1921 Year Book and for 1921 on pp. 786-791 of the 1922-23 Year Book.

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[1] Revised by Col. J. R. Munro, Chief of the Finance Branch of the Dominion Bureau of Statistics. This Branch issues detailed statements on Provincial Finance which may be obtained from the Dominion Statistician. For a list of these publications see Chapter XXVIII.

[2] The succession duties collected by the provinces in 1929 amounted in the aggregate to $[illegible]36, as compared with $1,020,972 as recently as 1904, or a 13-fold increase in 25 years. The aggregate revenue raised by taxation of corporations, land, income and miscellaneous (exclusive of gasoline tax) increased from $7,217,548 in 1916 to $24,464,297 in 1929—a three-fold increase in 13 years. For the details for the years 1916 to 1926, see pp. 680-685 of the 1921 Year Book, pp. 788-793 of the 1926 Year Book and pp. 836-841 of the 1927-28 Year Book.

In 1927 it was decided to commence a more exhaustive analysis of the finances of the provinces, including extraordinary as well as ordinary revenue and expenditure in the survey. The difficulties experienced in making this analysis have been considerable, but the results, it is expected, will soon be available.

Ordinary Revenue and Expenditure.—The total ordinary revenue of the nine provinces for their latest fiscal years for which final data are available, ended 1929, was $183,598,024 as compared with $168,109,505 in 1928, $156,845,780 in 1927, $146,450,904 in 1926, $132,398,729 in 1925, $127,896,047 in 1924, $117,738,244 in 1923, $116,156,699 in 1922, $102,030,458 in 1921, $92,653,023 in 1920 and $50,015,795 in 1916. The total ordinary expenditure in 1929 was $177,542,192 as compared with $165,538,910 in 1928, $152,211,883 in 1927, $144,183,178 in 1926, $136,648,242 in 1925, $135,159,185 in 1924, $132,671,095 in 1923, $112,874,954 in 1922, $102,569,515 in 1921, $88,250,675 in 1920 and $53,826,219 in 1916. Thus the total ordinary revenue of the provinces shows an increase of 267 p.c. in the short space of 13 years, while the total ordinary expenditure shows an increase of 230 p.c. in the same period.

Considering the individual provinces, the largest revenue for 1929 is that of Ontario, $64,549,718, Quebec being next with $39,976,283, and British Columbia third with $21,094,427. As regards total expenditure for the same year, that of Ontario was highest, $61,906,824, Quebec second with $35,964,487, and British Columbia third with $22,825,520. In 1929, British Columbia raised the largest revenue per head of population, *viz.,* $35.69, while Prince Edward Island had the lowest, $12.58. (For available figures for 1930, see tables).

The Growth of Provincial Taxation.—Whereas in earlier years the Dominion subsidies, together with the revenues arising out of the natural resources of the provinces and from fees for specific services rendered to the citizens, nearly sufficed to cover the whole expense of government and rendered a resort to taxation for provincial purposes practically unnecessary in most of the provinces, the great increase in the functions of government since the commencement of the present century has put an end to this state of affairs. The aggregate amount of taxation for provincial purposes in the fiscal years prior to 1916 is unfortunately not available. Since that time provincial taxation has increased, according to the analyses made in the Dominion Bureau of Statistics, from $15,718,146 in 1916 to $109,182,462 in 1929—a nearly seven-fold increase in 13 years.

The increase in the use of automobiles, both for commercial purposes and pleasure, is clearly demonstrated by the growing revenues from licences and permits issued by the Provincial Governments. In 1921 the total revenue of all provinces from automobile licensing amounted to $7,857,751. It increased to $9,290,900 in 1922; to $10,842,525 in 1923; to $11,944,242 in 1924; to $13,020,607 in 1925; to $15,288,138 in 1926; to $15,822,339 in 1927; to $18,980,716 in 1928, and to $21,735,827 in 1929.

The growth of revenue from the gasolene tax still further demonstrates the increasing use of motor vehicles. In 1923 Manitoba and Alberta were the only provinces showing a gasolene-tax revenue, the total being $280,404. In 1924 the five provinces of Prince Edward Island, Quebec, Manitoba, Alberta and British Columbia collected gasolene tax revenue to the amount of $559,543, while in 1925 the same provinces with Ontario added, collected $3,521,388. In 1926 all provinces, except Saskatchewan, collected gasolene taxes which amounted to $6,104,716, in 1927 to $7,615,907, and in 1928 to $9,151,735; in 1929, gasolene tax was collected in all provinces and amounted to $17,237,017.

The provincial revenues from the liquor traffic have increased considerably of late years. The adoption of government control of the sale of liquor in the majority of the provinces, has resulted in trading profits, licensing revenues, and permit fees, all of which have swelled the provincial revenues. Prior to the adoption of government control such revenues were not available to the provinces. In 1925 the total revenue collected by all provinces from the liquor traffic was $8,964,824; in 1926 it was $11,609,392, increasing to $16,793,656 in 1927. In 1928, it amounted to $22,755,212 and in 1929 to $27,599,687. The method of control varies somewhat as between provinces. In the majority of cases there are independent commissions or boards to administer the provincial liquor traffic acts, but the accounting and trading profits are shown somewhat differently in the various provincial public accounts reports.

Bonded Indebtedness of the Provinces.—The bonded indebtedness of the provinces amounts to about four-fifths of their total direct liabilities. In recent years, the aggregate bonded indebtedness of the provinces has steadily increased. The total for the nine provinces was $644,195,268 in 1923, $705,230,487 in 1924, $708,900,342 in 1925, $715,489,427 in 1926, $757,168,785 in 1927, $779,155,374 in 1928 and $819,517,036 in 1929. This bonded indebtedness for 1929 was divided by provinces as follows:—P.E.I., $2,109,000; N.S., $50,072,847; N.B., $39,525,603; Que., $80,334,792; Ont., $350,563,845; Man., $77,316,136; Sask., $58,275,776; Alta., (net) $92,764,276; B.C., $77,482,736. The development of the principle of public ownership is largely responsible for the high bonded indebtedness in certain provinces, particularly in Ontario where the hydro-electric system and the provincially-owned Temiskaming and Northern Ontario Railway largely account for the bonded indebtedness of the province. The larger of these public utilities, the hydro-electric system, is, however, meeting from its revenues the interest on the indebtedness incurred in its construction.

Interest Payments of the Provinces.—The interest payments of the Provincial Governments have naturally increased in proportion to their growing indebtedness described above. In 1916, the first year for which aggregate figures are available on a comparable basis, the total interest payments of the provinces were $7,817,844; in 1921 they had risen to $19,818,266; in 1926 they were $37,366,925 and in 1929 $41,207,090. The 1929 interest payments of the Provincial Governments were as follows:—P.E.I., $74,998; N.S., $2,270,269; N.B., $1,903,544; Que., $3,301,376; Ont., $19,038,262; Man., $4,026,694; Sask., $2,362,569 (funded debt only); Alta., $4,280,799; B.C. $3,948,579.

Fiscal Years of the Provinces.—The fiscal years of the provinces end as follows:—P.E.I., Dec. 31; N.S., Sept. 30; N.B., Oct. 31; Quebec, June 30; Ontario, Oct. 31; Manitoba and Saskatchewan, April 30; Alberta and British Columbia, Mar. 31.

24.—Statement Showing the Ordinary Revenues and Expenditures of the Provincial Governments for their respective fiscal years ended 1868-1930—continued on pp. 862-3.

Fiscal Year.	P.E.I.		N.S.		N.B.		Quebec.	
	Receipts.	Expenditure.[2]	Receipts.	Expenditure.	Receipts.	Expenditure.	Receipts.	Expenditure.
	$	$	$	$	$	$	$	$
1868	270,559	299,867	466,181	532,808	555,293	485,267	1,529,843	1,181,932
1869	288,722	312,653	545,899	518,296	469,000	518,849	1,654,510	1,319,840
1870	302,855	343,892	601,373	537,080	433,216	463,191	1,653,993	1,581,251
1871	385,014	406,236	525,824	600,344	451,076	438,407	1,632,032	1,575,545
1872	395,473	506,666	687,695	639,584	586,105	558,502	1,698,331	1,595,653
1873	484,979[1]	401,662[1]	600,196	608,919	568,550	540,486	1,795,749	1,707,356
1874	403,013	442,767	686,826	676,111	591,465	589,794	1,983,603	1,908,283
1875	306,597	395,277	616,350	714,803	608,099	679,814	2,036,869	2,060,779
1876	524,144	353,226	589,637	653,874	634,850	587,330	2,329,868	2,283,025
1877	326,274	331,632	562,800	588,942	618,113	650,233	2,397,383	2,471,553
1878	312,684	334,133	645,294	688,003	584,977	640,815	2,018,482	2,577,171
1879	288,062	313,845	394,205	503,051	526,685	616,132	2,201,215	2,715,549
1880	269,603	257,309	541,318	506,253	675,285	609,671	2,342,412	2,830,023
1881	275,380	261,276	476,445	494,582	607,445	598,844	3,191,779	3,566,612
1882	233,465	257,228	537,667	569,119	643,710	614,236	3,419,371	3,628,229
1883	228,169	270,477	563,864	541,099	822,889[3]	943,824[3]	2,755,707	3,096,943
1884	280,271	279,515	586,561	572,768	650,466[4]	633,658	2,823,565	3,124,620
1885	248,222	266,318	613,026	620,700	617,570	584,473	2,926,148	2,936,734
1886	233,978	304,467	633,145	656,348	634,574	623,593	2,949,562	3,032,607
1887	241,736	288,052	656,639	664,103	665,819	667,647	2,965,567	3,288,798
1888	254,209	279,939	712,951	668,400	664,880	640,806	2,738,768	3,365,032
1889	234,635	263,605	668,774	713,941	651,031	637,051	3,628,544	3,543,619
1890	224,882	305,799	664,938	710,497	646,079	651,735	3,537,407	3,894,413
1891	274,047	304,486	661,541	692,538	612,762	680,813	3,457,144	4,095,520
1892	245,652	259,012	769,976	822,462	652,669	676,483	3,458,404	4,446,640
1893	217,473	294,201	682,567[5]	642,385[5]	730,877	711,673	4,373,363	3,907,445
1894	282,468	280,596	888,213	862,842	619,298[6]	661,521[6]	4,258,728	4,267,946
1895	277,314	310,177	835,455	831,230	687,437	684,635	4,221,687	4,189,985
1896	273,493	287,631	841,160	853,893	698,437	701,452	4,327,910	4,099,707
1897	272,550	310,752	832,240	853,699	745,203	727,187	3,877,466	4,892,282
1898	276,183	301,700	855,960	849,330	708,809	727,050	4,176,140	4,415,370
1899	282,678	276,789	876,828	852,379	764,439	749,644	4,223,579	4,201,023
1900	282,056	308,494	1,014,123	937,261	758,989	794,477	4,451,578	4,433,386
1901	309,445	315,326	1,090,230	1,088,927	1,031,267	910,346	4,563,432	4,516,554
1902	324,670	324,185	1,140,217	1,087,403	826,066	845,637	4,515,170	4,490,677
1903	318,766	327,662	1,243,581	1,177,331	801,410	816,295	4,699,773	4,596,061
1904	307,730	356,120	1,194,756	1,161,456	890,653	885,457	4,880,687	4,795,469
1905	313,445	334,734	1,324,531	1,303,708	865,637	874,420	5,039,001	4,989,906
1906	258,235[7]	264,135[7]	1,391,629	1,375,588	887,202	879,066	5,340,167	5,179,817
1907	350,479	346,081	1,438,167	1,539,169	969,939	960,093	5,270,595	4,767,070
1908	366,601	377,603	1,783,467	1,624,760	1,086,738	1,042,196	6,016,616	4,980,919
1909	375,374	366,938	1,632,979	1,653,508	1,259,827	1,255,382	6,082,187	5,539,880
1910	375,151	382,891	1,592,363	1,725,914	1,324,440	1,317,876	6,571,944	5,627,755
1911	374,798	398,490	1,625,653	1,790,778	1,347,077	1,403,547	7,032,745	6,424,900
1912	485,565[8]	527,220[8]	1,870,056	1,832,075	1,417,722	1,409,049	8,070,109	7,386,680
1913	503,553	450,112	1,920,565	1,949,784	1,459,000	1,446,963	8,382,737	7,953,985
1914	525,555	445,396	1,885,458	2,098,893	1,505,229	1,493,774	9,000,377	8,624,368
1915	470,730	510,345	1,953,302	2,073,672	1,634,079	1,626,634	9,597,926	8,710,516
1916	508,455	453,151	2,165,338	2,152,773	1,580,419	1,568,340	9,647,984	9,436,687
1917	496,053	487,113	2,118,620	2,344,009	1,572,814	2,166,904	10,441,114	9,907,672
1918	514,475	484,416	2,332,634	2,573,797	2,357,909	2,399,062	13,806,392	11,671,830
1919	501,915	655,409	3,280,313	3,280,282	2,182,420	2,595,937	12,666,352	12,371,131
1920	740,973	660,774	3,801,016	3,916,848	3,100,892	2,969,323	14,472,651	13,520,740
1921	769,719	694,042	4,586,840	4,678,146	2,892,905	3,432,512	15,914,521	14,624,088
1922	748,888	687,241	4,791,208	4,791,998	3,226,727	2,985,877	21,609,303	16,575,977
1923	554,303	790,046	5,317,335	5,229,178	3,479,733	3,648,273	21,634,642	19,930,276
1924	738,431	715,882	5,461,383	5,579,525	3,725,286	3,835,522	23,170,733	21,567,293
1925	740,076	745,338	4,467,484	5,969,544	3,556,330	4,112,569	25,021,329	23,629,390
1926	832,551	756,114	5,744,575	6,327,043	4,206,853	4,078,775	27,206,335	26,401,480
1927	836,748	870,427	6,517,073	6,566,143	5,096,446	4,636,157	30,924,997	29,078,703
1928	1,034,782	943,548	6,933,630	7,543,078	5,290,098	5,393,784	34,807,783	32,821,226
1929	1,083.571	1,033,315	7,390,410	7,288,486	5,991,375	6,521,575	39,976,283	35,964,487
1930[9]	1,148,749	1,133,366	7,682,066	7,900,987	6,513,285	7,357,020	-	-

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[1] 9 months only. [2] Includes expenditure on capital account, except for 1900–1904. [3] 14 months. [4] Includes $250,000, proceeds of bonds for funding floating debt. [5] For 9 months ended September 30. [6] 10 months. [7] Nine months only, owing to change of fiscal year. [8] Fifteen months, owing to change of fiscal year. [9] Subject to revision.

24.—Statement Showing the Ordinary Revenues and Expenditures of the Provincial Governments for their respective fiscal years ended 1868-1930—continued.

Fiscal Year.	Ontario.		Manitoba.		Saskatchewan.	
	Receipts.	Expenditure.	Receipts.	Expenditure.	Receipts.	Expenditure.
	$	$	$	$	$	$
1868	2,250,208	1,179,269	-	-	-	-
1869	2,625,179	1,445,752	-	-	-	-
1870	2,500,696	1,578,977	-	-	-	-
1871	2,333,180	1,816,784	-	-	-	-
1872	3,060,748	2,217,555	-	-	-	-
1873	3,141,298	3,099,634	-	138,658	-	-
1874	3,446,348	3,883,702	24,611[5]	61,177[5]	-	-
1875	3,156,606	3,617,522	74,534	133,390	-	-
1876	2,589,085	3,152,365	150,010[6]	145,248[6]	-	-
1877	2,502,449	3,131,998	99,608	92,958	-	-
1878	2,284,656	2,914,864	98,864	107,926	-	-
1879	2,287,951	2,954,712	135,311	151,086	-	-
1880	2,584,152	2,531,166	118,867	185,109	-	-
1881	2,788,747	2,592,800	121,867	226,808	-	-
1882	2,880,450	2,931,825	255,208	232,189	-	-
1883	2,439,941	2,900,035	376,863	386,071	-	-
1884	2,820,555	3,207,890	302,962	501,710	-	-
1885	3,005,921	3,040,139	150,728[5]	229,278[5]	-	-
1886	3,148,660	2,181,450	485,326	448,002	-	-
1887	3,527,578	3,454,372	506,890	520,190	-	-
1888	3,602,862	3,544,835	841,894[6]	758,139[6]	-	-
1889	4,464,031	4,578,982	583,795	588,467	-	-
1890	3,434,259	3,907,428	585,709	708,302	-	-
1891	4,138,589	4,158,460	590,484	664,432	-	-
1892	4,662,922	4,068,257	605,288	832,890	-	-
1893	4,091,914	3,907,145	633,116	798,188	-	-
1894	3,453,163	3,839,339	613,094	699,319	-	-
1895	3,585,300	3,758,595	703,172	704,946	-	-
1896	3,490,671	3,703,380	665,353	763,158	-	-
1897	4,139,848	3,767,676	683,706	780,109	-	-
1898	3,710,928	3,864,971	936,604	837,888	-	-
1899	4,103,478	3,717,404	776,234	972,462	-	-
1900	4,192,940	4,003,729	905,331	1,085,405	-	-
1901	4,466,044	4,038,834	1,008,653	988,251	-	-
1902	4,291,083	4,345,004	1,443,256	1,248,128	-	-
1903	5,466,653	4,888,983	1,352,218	1,262,292	-	-
1904	6,128,358	5,267,453	1,486,667	1,271,733	-	-
1905	6,016,176	5,396,017	1,860,900	1,398,431	618,432[1]	118,602[1]
1906	7,149,478	6,720,179	2,089,652	1,572,691	1,441,258[2]	1,364,352[2]
1907	8,320,419	7,714,246	2,118,784	1,824,381	-	-
1908	8,602,903	8,557,065	2,891,582	2,534,794	1,844,371	2,091,613
1909	7,477,921	7,545,040	3,376,893	2,752,774	2,199,984	2,654,690
1910	8,891,005	8,887,520	3,847,322	3,234,941	2,514,698	2,220,866
1911	9,370,834	9,916,934	4,454,190	4,002,826	2,699,603	2,575,145
1912	10,042,001	10,287,992	7,046,675	4,339,540	4,385,831	4,255,850
1913	11,183,302	10,868,026	5,788,070	5,314,849	4,668,754	4,656,800
1914	11,121,382	11,819,311	5,512,163	5,638,659	6,372,540[4]	5,823,980[4]
1915	12,975,732	12,704,362	5,472,955	6,026,596	5,024,936	5,368,649
1916	13,841,339	12,705,333	5,897,807	6,147,780	4,801,064	5,258,756
1917	18,269,597	16,518,223	6,292,986	6,860,355	5,631,910	5,553,965
1918	19,270,122	17,460,404	6,723,013	7,307,727	7,797,153	6,828,596
1919	20,692,166[3]	21,464,575	8,613,364	8,497,942	8,333,759	8,125,203
1920	25,981,517[3]	25,880,843	9,870,710	10,602,955	9,903,885	8,707,833
1921	30,411,396[3]	28,579,688	9,358,956	10,063,139	11,789,920	12,151,665
1922	39,725,370[3]	37,458,395[7]	7,940,457	8,381,667	11,801,894	13,322,120
1923	34,818,729[3]	49,305,439	10,078,730	10,616,567	12,576,763	12,886,544
1924	41,721,961[3]	48,866,569	10,926,634	10,455,187	12,520,411	12,449,150
1925	48,013,852[3]	51,462,178	7,866,519[8]	6,824,155[8]	12,378,755	12,498,933
1926	52,039,855[3]	51,251,781	10,582,537	10,431,652	13,317,398	13,212,483
1927	55,305,225	55,763,689	11,592,758	10,446,285	13,050,217	12,962,217
1928	58,425,983	58,198,746	10,962,317	11,103,109	13,564,893	13,449,632
1929	64,529,718	61,905,824	12,150,490	12,344,493	16,096,666	15,971,231
1930[10]	57,343,291	57,989,353	13,922,135	13,802,934	16,561,528[9]	17,079,704[9]

[1] Four months only. Province created Sept. 1, 1905. [2] Fourteen months ended Feb. 28, 1907. [3] Includes capital revenue for lands which cannot be separated. [4] Fourteen months ended April 30. [5] Six months. [6] Eighteen months. [7] Includes capital expenditure which cannot be separated. [8] For 8 months. [9] Certain minor items, amounting to about $700,000, shown in previous years, have been excluded from the 1930 Provincial accounts. [10] Subject to revision.

24.—Statement Showing the Ordinary Revenues and Expenditures of the Provincial Governments for their respective fiscal years ended 1868-1930—concluded.

Fiscal Year.	Alberta.		British Columbia.		Totals for All Provinces.[5]	
	Receipts.	Expenditure.	Receipts.	Expenditure.	Receipts.	Expenditure.
	$	$	$	$	$	$
1868	–	–	–	–	5,072,084	3,679,143
1869	–	–	–	–	5,583,310	4,115,390
1870	–	–	–	–	5,492,133	4,504,391
1871	–	–	191,820[6]	97,692[6]	5,518,946	4,935,008
1872	–	–	327,216	432,083	6,755,568	5,950,043
1873	–	–	370,150	372,169	6,960,922	6,868,884
1874	–	–	372,418	583,360	7,508,284	8,145,194
1875	–	–	351,241	614,659	7,150,296	8,216,244
1876	–	–	381,120	728,310	7,198,714	7,903,378
1877	–	–	408,348	685,046	6,914,975	7,952,362
1878	–	–	430,786	514,879	6,375,743	7,777,791
1879	–	–	213,058[6]	186,715[6]	6,046,487	7,441,090
1880	–	–	390,908	446,575	6,922,545	7,366,106
1881	–	–	397,035	378,779	7,858,698	8,119,701
1882	–	–	405,583	474,428	8,375,454	8,707,254
1883	–	–	425,808	594,102	7,613,241	8,732,551
1884	–	–	503,174	590,629	7,967,554	8,910,820
1885	–	–	600,399	655,438	8,162,014	8,333,080
1886	–	–	514,720	772,211	8,599,965	8,054,678
1887	–	–	537,335	731,307	9,101,564	9,614,469
1888	–	–	598,252	788,955	9,413,816	10,046,106
1889	–	–	698,055	857,545	10,928,865	11,183,210
1890	–	–	835,463	954,021	9,928,737	11,132,195
1891	–	–	959,248	1,032,104	10,693,815	11,628,353
1892	–	–	1,020,002	1,430,920	11,414,913	12,536,664
1893	–	–	1,019,206	1,431,438	11,748,516	11,692,475
1894	–	–	821,660	1,514,405	10,936,624	12,125,968
1895	–	–	896,025	1,906,924	11,206,390	12,386,492
1896	–	–	989,765	1,614,723	11,286,792	12,023,944
1897	–	–	1,383,048	1,569,071	11,934,061	12,900,776
1898	–	–	1,439,623	2,001,032	12,104,247	12,997,341
1899	–	–	1,531,639	2,156,474	12,558,875	12,926,175
1900	–	–	1,544,108	1,831,205	13,149,125	13,393,957
1901	–	–	1,605,920	2,287,821	14,074,991	14,146,059
1902	–	–	1,807,925	2,537,373	14,348,387	14,878,407
1903	–	–	2,044,630	3,393,182	15,927,031	16,461,806
1904	–	–	2,638,260	2,862,794	17,527,111	16,600,482
1905	635,976[1,2]	162,723[1,2]	2,920,462	2,302,418	19,594,560	16,880,959
1906	1,425,059[2]	1,485,914[2]	3,044,442	2,328,126	23,027,122	21,169,868
1907	2,081,828[2]	2,450,375[2]	4,444,594	2,849,480	24,994,805	22,450,895
1908	2,849,650[2]	2,823,831[2]	5,979,055	3,686,350	31,420,983	27,719,131
1909	3,135,727[2]	2,650,441	4,664,501[3]	3,749,171[3]	30,205,393	28,167,824
1910	2,488,403[2]	4,002,394	8,874,742	6,382,993	36,480,071	33,783,150
1911	3,309,153[2]	3,437,088	10,492,892	8,194,803	40,706,948	38,144,511
1912	4,100,113[2]	3,956,562	10,745,709	11,189,024	48,163,781	45,183,992
1913	5,399,905	5,225,584	12,510,215	15,412,322	51,819,101	53,278,425
1914	5,255,276	5,401,595	10,479,259	15,762,912	51,657,239	57,108,888
1915	5,143,590	5,714,032	7,974,496	11,942,667	50,247,746	54,677,473
1916	5,281,695	6,018,894	6,291,694	10,083,505	50,015,795	53,826,219
1917	6,260,103	6,752,504	6,906,784	9,531,740	57,989,984	60,122,485
1918	7,660,762	8,303,808	8,882,845	9,023,269	69,345,305	66,052,909
1919	9,642,739	9,525,749	10,931,279	9,887,745	76,844,307	76,403,973
1920	10,919,776	10,423,356	13,861,603	11,568,003	92,653,023	88,250,675
1921	11,086,937	13,109,304	15,219,264	15,236,931	102,030,458	102,569,515
1922	9,324,890	11,235,192	16,987,869	17,436,487	116,156,699	112,874,954
1923	10,419,146	10,990,830	18,758,864	19,273,942[4]	117,738,244	132,671,095
1924	10,506,627	11,174,690	19,124,580	20,515,367[4]	127,896,047	135,159,185
1925	11,531,026	11,249,323	18,823,358	20,156,702[4]	132,398,729	136,648,242
1926	11,912,128	11,894,328	20,608,672	19,829,522[4]	146,450,904	144,183,178
1927	12,263,401	12,479,381	20,257,916	19,408,881[4]	156,845,780	152,211,883
1928	16,149,896[7]	15,870,133[7]	20,939,123	20,215,655[4]	168,109,505	165,538,910
1929	15,265,084	13,686,261	21,094,427	22,825,520[4]	183,598,024	177,542,192
1930[8]	15,829,865	15,402,885	25,498,409	25,066,980[4]	–	–

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[1] Four months only. Province created Sept. 1, 1905. [2] Includes small sums of capital revenue and expenditure which cannot be separated. [3] Nine months only, owing to change in fiscal year. [4] Includes sinking funds taken from capital expenditure (expenditure out of income). [5] See footnotes to figures for individual provinces when using these columns. [6] Six months. [7] Fifteen months ended Mar. 31, 1928. [8] Subject to revision.

25.—Ordinary Receipts and Expenditures of Provincial Governments per head of Population for their respective fiscal years ended in the census years 1871-1911 and in each year from 1916 to 1930.

Note.—As this table is based upon Table 24, those using it should refer to that table for totals and for explanatory notes.

(A) ORDINARY RECEIPTS.

Fiscal Year.	Prince Edward Island.	Nova Scotia.	New Bruns-wick.	Quebec.	Ontario.	Mani-toba.	Saskat-chewan.	Alberta.	British Colum-bia.	Average for All Pro-vinces.
	$	$	$	$	$	$	$	$	$	$
1871	4·09	1·36	1·57	1·36	1·44	–	–	–	5·29	1·53
1881	2·53	1·08	1·90	2·35	1·45	1·96	–	–	8·03	1·82
1891	2·50	1·47	1·91	2·32	1·96	3·88	–	–	9·77	2·21
1901	3·00	2·37	3·12	2·77	2·05	3·95	–	–	8·99	2·62
1911	4·00	3·30	3·83	3·50	3·71	9·65	5·48	8·84	26·73	5·65
1916	5·59	4·27	4·28	4·43	5·08	10·65	7·41	10·64	13·76	6·23
1917	5·49	4·16	4·22	4·72	6·61	11·14	8·42	12·17	14·68	7·10
1918	5·72	4·55	6·27	6·14	6·87	11·68	11·28	14·38	18·36	8·31
1919	5·61	6·35	5·74	5·54	7·27	14·67	11·69	17·50	21·99	9·08
1920	8·32	7·31	8·08	6·23	8·99	16·49	13·47	19·17	27·14	10·75
1921	8·69	8·76	7·46	6·74	10·37	15·34	15·56	18·84	29·01	11·63
1922	9·47	9·09	8·24	9·01	13·35	12·66	15·17	15·41	31·76	12·96
1923	7·43	10·03	8·80	8·87	11·53	15·81	15·78	16·78	34·48	12·98
1924	8·42	10·23	9·33	9·34	13·63	16·89	15·36	16·49	34·58	13·88
1925	8·48	8·32	8·82	9·93	15·47	11·98	14·86	17·69	33·58	14·16
1926	9·57	10·64	10·33	10·62	16·54	16·56	16·23	19·61	36·26	15·62
1927	9·65	12·00	12·40	11·88	17·67	17·92	15·61	19·88	35·23	16·50
1928	11·98	12·68	12·75	13·15	18·09	16·74	15·94	25·56	35·92	17·43
1929	12·58	13·43	14·29	14·86	19·73	18·32	18·57	23·63	35·69	18·76
1930[1]	13·39	13·87	15·38	–	17·31	20·73	18·78	23·98	42·71	–
(B) ORDINARY EXPENDITURES.										
1871	4·32	1·55	1·54	1·32	1·12	–	–	–	2·70	1·36
1881	2·40	1·12	1·87	2·63	1·35	3·64	–	–	7·66	1·88
1891	2·77	1·54	2·12	2·75	1·97	4·36	–	–	10·51	2·41
1901	3·05	2·37	2·75	2·74	1·85	3·87	–	–	12·80	2·63
1911	4·25	3·64	3·99	3·20	3·92	8·68	5·23	9·18	20·87	5·29
1916	4·98	4·25	4·25	4·33	4·67	11·10	8·12	12·12	22·05	6·71
1917	5·39	4·60	5·82	4·48	5·97	12·15	8·30	13·12	20·26	7·33
1918	5·39	5·02	6·38	5·19	6·23	12·69	9·88	15·59	18·65	7·94
1919	7·33	6·35	6·83	5·41	7·54	14·48	11·39	17·28	19·89	9·03
1920	7·42	7·53	7·73	5·82	8·96	17·72	12·85	18·30	22·65	10·24
1921	7·83	8·93	8·85	6·19	9·74	16·49	16·04	22·28	29·05	11·69
1922	7·77	9·08	7·62	6·91	12·59	13·37	17·12	18·57	32·58	12·60
1923	8·98	9·87	9·22	8·17	16·33	16·65	16·17	17·70	35·43	14·63
1924	8·16	10·46	9·60	8·69	15·96	16·16	15·27	17·54	37·10	14·67
1925	8·54	11·12	10·20	9·38	16·58	10·40	15·00	17·26	35·96	14·61
1926	8·69	11·72	10·02	10·31	16·29	16·32	16·10	19·58	34·89	15·38
1927	10·04	12·09	11·28	11·17	17·50	16·15	15·51	20·23	33·75	16·01
1928	10·92	13·79	13·00	12·40	18·02	16·95	15·80	25·11	34·68	17·16
1929	12·00	13·24	15·55	13·37	18·92	18·61	18·43	21·19	38·62	18·15
1930[1]	13·21	14·26	17·38	–	17·50	20·56	19·36	23·34	41·99	–

[1] Subject to revision.

Section 3.—Municipal Public Finance.[1]

The existence of local self-governing units has always been characteristic of democratic societies, and nowhere more so than in Canada. The struggle for responsible government was naturally accompanied by an agitation for local self-government in the cities and towns of Canada, and after responsible government had been conceded, a complete system of municipalities was established throughout the old Province of Canada by the Municipal Act of 1849.[2] Under the division of powers made by the British North America Act between the Dominion and the Provincial Governments, legislation regarding municipal government, being a local matter, was naturally assigned to the provinces, which differ considerably with regard to their types of municipal organization. Thus in Prince Edward Island the only incorporated municipalities are the city of Charlottetown and six incorporated towns. In Nova Scotia there are no rural municipalities smaller than counties. In British Columbia six of the 33 cities have fewer than 1,000 people, while there are no towns at all and only twelve villages; again, in the same province the rural districts are mainly administered from the provincial capital, there being only 28 rural municipalities. Finally, in Saskatchewan and Alberta there exist local improvement districts, areas which have not as yet been organized into rural municipalities, where the taxes are levied, collected and expended by the Provincial Government. Such districts, however, may be regarded as on the way to become self-governing rural municipalities and their statistics are therefore included in Table **26**, which gives statistics of the number and types of municipalities in 1929, except that the New Brunswick figures are for 1921.

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[1] Revised by Col. J. R. Munro, Chief of the Finance Branch of the Dominion Bureau of Statistics. This Branch issues statements on "Financial Statistics of Urban Municipalities of 10,000 Population and Over", on "Bonded Indebtedness of Municipalities" and an "Assessment Valuations of Municipalities". For a list of publications see Chapter XXVIII, Section 1, under Finance".

[2] For a brief outline of the rise of the municipal system of Ontario, see 1922-23 Year Book p. 108.

26.—Number of Municipalities in Canada, by Provinces and Classes, 1929.

Province.	Cities.	Towns.	Villages.	Counties.	Rural Municipalities.	Local Improvement Districts.	Total No. of Municipalities.
Prince Edward Island	1	6	-	-	-	-	7
Nova Scotia	2	43	-	-	24	-	69
New Brunswick[1]	3	23	4	15	-	-	45
Quebec	24	98	293	74	1,003	-	1,492
Ontario	27	145	154	38[2]	573[3]	-	937
Manitoba	4	30	21	-	120	-	175
Saskatchewan	8	80	382[4]	-	302	18	790
Alberta	6	54	137[5]	-	167	229[6]	593
British Columbia	33	-	12	-	28	-	73
Canada	**108**	**479**	**1,003**	**127**	**2,217**	**247**	**4,181**

[1] From census returns of 1921. [2] There are 44 counties in all, geographically, but a number are united for municipal purposes. [3] Officially known as townships. [4] Includes six summer resort villages. [5] Includes five summer resort villages. [6] Year 1926.

Municipal Assessments.—Throughout the Dominion, the chief basis of municipal tax revenue is the real estate within the limits of the municipalities; though in certain provinces personal property, income, and business carried on are also taxed. General taxes are normally assessed at the rate of so many mills on the dollar of the assessed valuations. In the Prairie Provinces the values of improvements made to real property are often rated at a very low figure, *e.g.*, in Saskatchewan, where the taxable valuations of buildings are about 10 p.c. of the taxable valuations of lands, and in Alberta, where they are about 20 p.c. of the taxable valuations of lands, as shown in Table **27**.

There are various reasons for fluctuations in assessment valuations, due to differences in laws and varying practices with regard to assessment as between provinces, as between classes of municipalities and as between municipalities of the same class from year to year. Such matters are more fully dealt with in the special report of the Bureau on "Assessment Valuations by Provinces".

Land valuations in the West, which in earlier years were somewhat inflated, have of late been assessed on a sounder basis, and in some provinces the Equalization Boards have placed a more equitable valuation on lands as among the various rural municipalities.

27.—Summary Statement Showing Total Assessment Valuations of Municipalities, by Provinces, for 1928 and 1929.

Province.	Taxable Real Property.		
	Land.	Buildings.	Total.
	$	$	$
Prince Edward Island 1928	–	–	31,658,612
1929	–	–	30,842,925
Nova Scotia[2] 1928	–	–	136,293,136[3]
1929	–	–	136,915,454[4]
New Brunswick 1928	–	–	153,272,949
1929	–	–	158,569,642
Quebec 1928	–	–	1,986,767,363
1929	–	–	2,354,494,461
Ontario 1928	1,279,230,900	1,322,454,777	2,601,685,677
1929	1,291,803,654	1,383,517,323	2,675,320,977
Manitoba 1928	–	–	539,913,667
1929	–	–	540,852,995
Saskatchewan 1928	960,280,278	99,122,626	1,059,402,904
1929	974,028,206	109,745,019	1,083,773,225
Alberta[5] 1928	508,294,910	101,201,629	609,496,539
1929	454,224,514	107,405,626	561,630,140
British Columbia 1928	303,152,779	331,448,235	634,601,014
1929	307,514,698	352,814,469	660,329,167
Totals, All Provinces 1928	**3,050,958,867**[1]	**1,854,227,267**[1]	**7,753,091,861**[3]
1929	**3,027,571,072**[1]	**1,953,482,437**[1]	**8,202,728,986**[4]

Province.	Personal Property.	Income.	Other Taxable Valuations.	Total Taxable Valuations.	Exempted Property.
	$	$	$	$	$
Prince Edward Island 1928	8,056,471	971,939	77,282	40,764,304	1,799,500
1929	6,820,658	536,020	75,850	38,275,453	1,944,000
Nova Scotia[2] 1928	24,124,234[3]	1,739,531	–	162,084,741[3]	40,619,145
1929	24,118,744[4]	1,698,572[4]	–	162,638,650	40,135,244
New Brunswick 1928	28,269,506	not shown	–	181,542,455	not shown
1929	28,597,163	not shown	–	187,166,805	not shown
Quebec 1928	–	–	14,640,086	2,001,407,449	630,835,391
1929	–	–	14,791,807	2,369,286,268	637,990,363
Ontario 1928	–	106,026,692	207,221,703	2,914,934,072[6]	477,639,396
1929	–	119,218,961	219,323,197	3,013,863,135[6]	488,724,668
Manitoba 1928	9,642,296	–	9,759,756	559,315,719	144,748,168
1929	10,296,733	–	10,439,762	561,589,490	144,991,311
Saskatchewan 1928	–	1,987,024	42,230,632	1,103,620,560	–
1929	–	2,473,384[7]	45,599,072	1,131,845,681	–
Alberta[5] 1928	149,629	–	6,784,264	616,430,432	–
1929	–	–	8,981,640	570,611,780	–
British Columbia 1928	–	–	–	634,601,014	77,501,143
1929	–	–	–	660,329,167	81,303,065
Totals, All Provinces 1928	**70,242,136**[3]	**110,725,186**	**280,713,723**	**8,214,700,746**[3]	**1,373,142,743**
1929	**69,833,298**[4]	**123,926,937**[4]	**299,211,328**	**8,695,606,429**	**1,395,088,651**

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[1] Less the Maritime Provinces, Quebec and Manitoba. [2] Personal property and income assessments for cities are for Sydney only. [3] Including $72,160 exempted property not separable. [4] Including $94,120 exempted property not separable. [5] Local Improvement Districts not included. [6] In addition assessments for schools only were: townships $3,742,872, towns and villages $22,428,159 and cities $82,843,163 in 1928; and townships $2,730,538, towns and villages $23,719,597 and cities $92,401,140 in 1929. [7] $256,400 is by special franchise.

Bonded Indebtedness.—Like other Canadian governing bodies, the municipalities of the greater part of Canada borrowed rather freely during the boom period of 1900-12, and again during the period of inflation between 1917 and 1920. The bonded indebtedness of Ontario municipalities rose from $153,568,409 in 1913 to $451,936,592 in 1929, while that of Quebec municipalities increased from $132,078,584 in 1914 to $293,557,500 in 1929, and a proportionate increase took place in other provinces. The recent growth in the bonded indebtedness of all classes of municipalities is shown by provinces in Table **28.** The figures show that there was an increase for 1929 over 1928 in each of the provinces with the exception of Nova Scotia. In Saskatchewan net debenture debt is shown for all municipalities in 1923 to 1926, while in 1927, 1928 and 1929 the statistics represent gross debenture debt. In Alberta the statistics given represent principally net debenture debt in 1924, 1925, 1926, 1927 and 1928, while in 1929 gross debenture debt is given. All other provinces give total debenture debt throughout.

28.—Total Bonded Indebtedness of All Classes of Municipalities, by Provinces, 1923-1929.

Province.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$	$	$
P.E.I.[1]	1,290,800	1,143,550	1,163,050	1,247,545	1,452,425	1,515,125	1,598,624
Nova Scotia	24,248,782	25,318,664	25,722,635	26,281,152	28,381,616	29,049,412	29,029,119
N.B.[2]	7,974,332	17,350,225	10,660,863	17,091,550	15,707,699	19,365,535	21,129,540
Quebec	214,260,791	230,424,908	231,358,779	246,541,730	260,435,420	278,864,744	293,557,500
Ontario	376,512,002	430,010,501	405,178,853	413,474,813	434,464,056	435,912,807	451,936,592
Manitoba	73,908,963	73,944,105	79,211,867	80,716,272	83,017,302	85,651,906	85,901,404
Saskatchewan	51,719,648	49,448,911	46,732,010	44,769,529	54,361,158	53,092,330	54,913,100
Alberta	70,999,611	65,414,317	57,908,593	56,950,712	62,414,660	63,428,853	78,473,392
B.C.	96,273,987	96,106,151	99,055,201	102,853,228	107,376,118	110,124,819	118,483,618
Totals	**917,188,946**	**989,191,332**	**956,991,881**	**989,926,531**	**1,047,610,454**	**1,077,005,531**	**1,135,022,889**

[1] The figures for 1923 are for Charlottetown, Summerside and Montague only; for 1924, Charlottetown and Kensington; for 1925, Charlottetown, Kensington and Montague, and for 1926, 1927, 1928 and 1929 returns were made by all urban municipalities.

[2] New Brunswick figures are for 1 city, 6 towns and 6 counties in 1923; 3 cities, 18 towns, 2 villages and 15 counties in 1924; 2 cities, 13 towns, 2 villages and 15 counties in 1925; 3 cities, 18 towns, 1 village and 15 counties in 1926; 3 cities, 23 towns, 4 villages and 15 counties in 1927, 1928 and 1929.

29.—Principal Financial and Other Statistics of Canadian Cities and Towns with Populations of 10,000 and over, 1929.

Province and City.	Area.	Population.	Total Assessed Value of Taxable Property.	Grand Total Receipts.	Grand Total Expenditures.	Grand Total Assets.	Total Liabilities.
	acres.	No.	$	$	$	$	$
Prince Edward Island—							
Charlottetown	830	12,750	7,493,878	252,282	252,027	2,056,295	1,560,354
Nova Scotia —							
Halifax	4,400[1]	58,372[2]	44,196,300	2,876,023	2,876,023	17,486,942	17,486,942
Sydney	3,730[1]	22,545[2]	12,699,860	1,235,014	1,235,015	5,224,596	5,224,597
Glace Bay	6,200[2]	17,007[2]	5,047,501	697,380	765,152	2,216,565	1,664,970
New Glasgow	2,640[1]	11,500[1]	5,820,050	330,884	326,423	1,320,390	912,450
Amherst	2,500[1]	10,000[1]	3,960,340	309,905	316,243	1,710,683	1,028,939
New Brunswick—							
Saint John	13,440	60,000[3]	51,491,400	2,913,589	2,968,460	11,656,409	8,934,408
Moncton	2,093	21,080	23,409,195	1,325,904	1,325,903	5,506,884	5,081,158
Fredericton	17,360[4]	8,114[2]	8,145,053	415,890	416,463	1,208,559	791,560

For footnotes see end of table, page 868.

29.—Principal Financial and Other Statistics of Canadian Cities and Towns with a Population of 10,000 and over, 1929—concluded.

Province and City.	Area.	Population.	Total Assessed Value of Taxable Property.	Grand Total Receipts.	Grand Total Expenditures.	Grand Total Assets.	Total Liabilities.
	acres.	No.	$	$	$	$	$
Quebec—							
Montreal	32,155	1,071,057	1,190,274,064	105,503,380	104,600,458	203,728,784	220,271,072
Quebec	5,754	136,172	114,046,001	12,647,089	11,247,763	23,137,175	26,373,872
Verdun	1,426	51,140	34,362,920	1,453,287	1,601,069	6,864,634	7,297,938
Three Rivers	2,560	39,000	22,666,438	2,633,032	2,644,893	7,747,205	8,583,776
Sherbrooke	3,104	27,959	25,826,935	2,769,613	2,789,906	11,471,653	11,491,143
Hull	4,000	27,886	21,461,345	957,930	953,734	3,925,156	3,853,574
Outremont	975	26,100	38,829,457	1,573,825	1,442,431	4,678,148	7,013,009
Westmount	976	25,000	68,882,022	2,623,698	2,623,698	11,392,910	11,393,160
Lachine	2,996	18,250	25,316,253	974,388	974,388	3,898,182	5,369,685
Shawinigan Falls	1,280	14,200	20,983,395	545,894	530,864	1,521,695	2,273,247
St. Hyacinthe	1,091	13,500	6,567,320	461,698	519,038	1,462,852	1,536,442
St. Jean	1,331	12,476	9,445,600	531,784	531,746	1,458,193	1,355,617
Lévis	2,222	11,808	5,863,434	242,132	229,061	1,528,167	1,194,648
Chicoutimi	1,200	11,284	7,335,450	498,094	497,692	1,142,810	1,730,293
Joliette	1,288	10,830	5,593,690	236,836	259,708	1,604,052	1,227,079
Thetford Mines	2,080	10,702	6,164,000	211,933	211,398	688,384	623,781
Jonquière	1,800	10,400	5,208,180	386,559	387,756	1,374,401	1,334,769
Sorel	2,000	10,200	4,574,825	304,312	305,772	728,105	1,039,700
Valleyfield	358	10,122	4,432,300	308,562	306,435	639,678	722,913
Ontario—							
Toronto	17,830	585,628	968,532,329	38,106,750	36,718,805	219,298,670	180,515,737
Hamilton	8,804	134,566	158,627,112	8,335,065	8,140,126	48,003,809	30,296,687
Ottawa	4,120	122,731	152,144,526	6,356,174	6,337,312	33,574,499	26,028,688
Windsor	3,209	68,569	81,814,225	4,422,969	4,268,800	18,266,773	16,372,535
London	7,212	68,404	80,629,204	3,544,028	3,552,059	17,800,116	15,551,975
Brantford	3,159	29,287	27,747,750	1,573,137	1,617,632	6,381,425	5,837,485
Kitchener	2,996	28,282	23,846,331	1,536,831	1,483,819	6,630,094	4,726,511
Fort William	9,835	24,786	31,433,875	1,532,383	1,492,423	12,096,633	11,916,739
Oshawa	3,356	24,194	15,435,895	1,045,676	1,010,084	5,544,014	5,517,996
St. Catharines	1,860	24,094	23,014,900	1,394,156	1,336,305	6,054,298	6,017,844
Sault Ste. Marie	4,900	22,322	18,814,111	1,085,806	1,060,499	6,964,555	6,432,421
Peterborough	2,827	22,012	23,477,335	1,034,018	1,040,934	8,634,575	7,296,048
Kingston	2,641	21,616	16,736,121	1,019,314	1,021,788	3,869,880	3,304,845
Guelph	3,104	19,857	13,772,393	1,216,670	1,145,925	7,163,484	4,452,966
Port Arthur	8,700	19,362	24,179,170	1,316,073	1,421,292	12,702,465	11,769,657
Stratford	2,835	18,671	15,086,505	812,448	806,225	6,546,025	4,261,296
Niagara Falls	1,655	18,403	22,039,425	1,198,253	1,130,593	3,710,641	3,667,760
Sarnia	1,770	16,763	17,756,185	1,085,108	1,055,129	4,059,561	2,852,141
St. Thomas	1,800	16,567	16,584,741	953,165	895,823	3,779,662	2,324,206
Chatham	1,650	16,104	13,532,714	624,587	599,585	2,120,238	990,149
North Bay	2,100	15,352	9,575,572	734,851	709,542	2,900,508	2,784,764
East Windsor	1,677	15,105	22,630,900	925,935	1,010,846	5,259,217	5,021,899
Belleville	1,800	13,267	9,847,504	709,506	676,021	4,709,793	3,390,399
Galt	1,600	13,236	11,046,630	665,622	661,971	4,873,369	4,297,564
Owen Sound	2,909	12,304	8,723,181	720,234	606,917	3,332,301	1,961,762
Sudbury	2,560	12,233	7,935,634	615,093	614,049	3,273,638	2,189,959
Timmins	740	11,855	6,808,123	506,334	540,188	1,836,517	1,466,341
Cornwall	577	10,938	8,153,690	341,036	316,199	1,074,312	694,410
Woodstock	1,525	10,687	7,155,209	513,094	430,481	1,582,024	1,525,859
Walkerville	1,000	10,671	14,787,313	780,632	809,914	4,546,755	3,779,041
Sandwich	2,033	10,655	14,143,634	754,963	754,651	3,306,810	3,112,722
Welland	1,100	10,054	9,566,694	529,271	496,037	3,954,309	2,400,081
Manitoba—							
Winnipeg	15,961	205,083	241,010,670	-	-	-	59,616,563[5]
Brandon	5,428	17,235	14,189,191	-	-	-	3,191,957[5]
St. Boniface	11,641	16,286	10,688,619	-	-	-	5,147,209[5]
Saskatchewan—							
Regina	8,408	52,000	44,285,129	4,918,437	4,362,898	21,349,365	16,851,578
Saskatoon	8,480	40,000	31,987,835	3,530,367	4,090,329	15,334,095	15,889,977
Moose Jaw	9,760	20,250	21,128,780	1,555,938	1,637,852	10,281,614	9,657,963
Alberta—							
Calgary	25,920[1]	82,000	60,076,165	5,494,913	5,221,169	-	27,123,320
Edmonton	27,200	74,298	63,176,880	6,070,594	5,566,146	-	40,551,257
Lethbridge	6,944[2]	13,000	9,328,385	865,956	748,324	-	3,939,652
Medicine Hat	10,880[2]	11,000	9,854,995	1,057,678	760,688	-	4,716,734
British Columbia—							
Vancouver	27,965	230,000	348,668,001	13,693,050	14,120,580	-	74,266,115
Victoria	4,637	38,750	56,798,180	2,917,853	2,782,760	-	17,670,882
New Westminster	3,481	18,025	21,150,302	1,305,546	1,356,778	-	6,115,552

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[1] For the year 1925. [2] Census 1921. [3] Estimated population. [4] For the year 1922. [5] Debentures outstanding.

Section 4.—National Wealth and Income.

Subsection 1.—National Wealth.

There are several methods of computing national wealth, *i.e.*, the aggregate value of the property within the nation, apart from undeveloped natural resources. Perhaps the most familiar of these methods is that of working back to capital values through income tax returns, but this can be applied only in countries where incomes are thoroughly appraised. A second method is that of estimation from probate returns, the value of the estates of deceased persons being regarded as representative. A third is that of a complete census, based upon a canvass of the individual. In the accompanying tables a fourth method, namely, the so-called "inventory" method, is employed; it consists in totalling the amounts known from various sources to be invested in agriculture, manufactures, dwellings, etc.

It must be understood that statistics of this character are suggestive and indicative rather than strictly accurate. The concept of wealth is distinctly intangible, and there are numerous elements of uncertainty in a calculation of this nature. The present survey, which includes the provincial distribution of Canadian wealth, places the estimated aggregate of the tangible wealth of the Dominion, exclusive of undeveloped natural resources, at $28,940,000,000 in 1928, as compared with $27,668,000,000 in 1927, $26,691,482,000 in 1926, $25,673,174,000 in 1925 and $22,195,302,000 in 1921. These figures however, are not exactly comparable, in view of certain improvements and additions that have been made in the method of estimation. An increase of nearly $1,300,000,000 is shown in the national wealth in the year 1928, and of over $6,700,000,000 in the seven years 1921 to 1928.

Aggregate and Per Capita Wealth of the Provinces, 1928.—As regards the provincial distribution of wealth, Ontario ranked first with estimated aggregate wealth of $9,892,000,000 or 34·2 p.c. of the total, and Quebec second, with estimated wealth of $7,302,000,000, or 25·2 p.c. of the whole. Saskatchewan was third, with estimated wealth of $3,075,000,000, or 10·6 p.c. of the total for the Dominion.

While Ontario led in absolute wealth, the western provinces came first in per capita wealth; British Columbia held first rank with a per capita wealth of $4,369; Alberta second with $3,717; Saskatchewan third with $3,613; and Manitoba fifth with $2,986. These figures may be compared with $3,063 and $2,759, the per capita wealth of Ontario and Quebec respectively, and $2,996, the per capita wealth for the whole Dominion. Further details are furnished in Table **30.**

As the statistics of population and wealth for the Yukon are uncertain, the per capita estimate of wealth is open to question, and has not been shown.

30.—Provincial Distribution of the National Wealth of Canada, with Percentage and Per Capita Analyses, 1927 and 1928.

NOTE.—Figures for 1921 and 1925 are given on pp. 849-850 of the 1927-28 Year Book and for 1926 on p. 827 of the 1930 Year Book.

Province.	Estimated Wealth.	Percentage Distribution of Wealth.	Estimated Population June 1.	Percentage Distribution of Population.	Wealth per capita.
1927.	$	p.c.	No.	p.c.	$
P.E. Island	147,000,000	0·53	86,700	0·91	1,695
Nova Scotia	854,000,000	3·09	543,000	5·70	1,573
New Brunswick	749,000,000	2·71	411,000	4·32	1,822
Quebec	6,840,000,000	24·72	2,604,000	27·36	2,627
Ontario	9,544,000,000	34·49	3,187,000	33·48	2,995
Manitoba	1,887,000,000	6·82	647,000	6·80	2,916
Saskatchewan	3,003,000,000	10·85	836,000	8·78	3,592
Alberta	2,318,000,000	8·38	617,000	6·48	3,757
British Columbia	2,309,000,000	8·35	575,000	6·04	4,016
Yukon	17,000,000	0·06	3,470	0·04	[2]
Totals	**27,668,000,000**	**100·00**	**9,519,000** [1]	**100·00** [1]	**2,907**
1928.					
P. E. Island	152,000,000	0·53	86,400	·089	1,759
Nova Scotia	839,000,000	3·00	547,000	5·66	1,589
New Brunswick	779,000,000	2·69	415,000	4·30	1,877
Quebec	7,302,000,000	25·23	2,647,000	27·41	2,759
Ontario	9,892,000,000	34·18	3,229,000	33·44	3,063
Manitoba	1,956,000,000	6·76	655,000	6·78	2,986
Saskatchewan	3,075,000,000	10·63	851,000	8·81	3,613
Alberta	2,349,000,000	8·12	631,900	6·54	3,717
British Columbia	2,547,000,000	8·80	583,000	6·04	4,369
Yukon	19,000,000	0·06	3,500	0·04	[2]
Totals	**28,940,000,000**	**100·00**	**9,658,000** [3]	**100·00** [3]	**2,996**

[1] Includes 9,050 population in the Northwest Territories or 0·09 p.c.

[2] As the statistics of population and wealth for the Yukon are uncertain, the per capita estimate of wealth is open to question and has not been shown.

[3] Includes 9,200 population in the Northwest Territories or 0·09 p.c.

Wealth of Canada, by Items, 1928.—In the items included in Table **31**, all duplications have been excluded. In any consideration of the individual items it should be remembered that each item covers only the portion of wealth which is mentioned in the description of the item. For example, the item of fisheries includes only capital invested in primary operations, while capital invested in fish-canning and -curing establishments is included under manufactures, though it might also be considered as part of the wealth connected with fisheries. In the same way, the items for manufactures do not include lands and buildings in urban centres which are shown under the heading of urban real property.

The total agricultural wealth in 1928 was $8,052,521,000, the largest item in our national wealth and 27·82 p.c. of the whole. This amount included the value of agricultural production in 1928, or $1,801,440,000, to cover the average stocks of agricultural goods in the possession of farmers and traders and the amount invested in preparation for the new crop.

The second largest element in the national wealth was urban real property. This included the assessed valuations of taxed and exempted property, to which was added one-third to provide for undervaluation by assessors and for roads bridges and sewers. The estimated value, as based on returns for 1928 received in the Bureau from the municipalities, was $7,582,784,000 or 26·20 p.c. of the total wealth of the Dominion.

The wealth invested in steam railways, computed from the cost of road and equipment, and distributed by provinces on the basis of mileage, constituted the next largest item, amounting to $3,020,060,000 or 10·43 p.c. of the total.

Another important item is the tangible value of the forests, amounting to $1,896,613,000 or 6·45 p.c., and including the estimated value of accessible raw materials, pulpwood, and capital invested in woods operations. In 1928, as in 1927 and 1926, this item included an estimate of the present value of young growth, accounting for an increase of $525,000,000 in this year's estimate over that for 1925.

The value of machinery and tools in manufacturing establishments and of lands and buildings of manufacturing concerns in rural districts was estimated at $1,356,306,000 in 1928 or 4·69 p.c. In addition the estimated value of materials on hand and stocks in process in manufacturing establishments was set at $795,775,000 in 1928 or 2·75 p.c. This item in 1925 included an estimate for stocks of manufactured goods in the hands of dealers, but in the present statement this is included in the item for trading establishments, which shows the estimated value of furniture and fixtures, delivery equipment, and materials and stocks on hand in 1928 as $1,066,901,000 or 3·68 p.c. of the total.

On the basis of the estimated population of 1928 of 9,658,000, the per capita investment in agricultural wealth was $834, in urban real property $785, in steam railways $313, in the forests $193, and in household furnishings and personal property $134. The per capita wealth of all kinds was $2,996. Further details of the items are presented in Tables **31** and **32**.

31.—An Estimate of the National Wealth of Canada, with Percentage and Per Capita Distribution of Component Items, 1928.

Classification of Wealth.	Aggregate Amount.	Percentage of Total.	Average Amount per head of Population.
	$	p.c.	$
Farm values (land, buildings, implements, machinery and live stock)	6,251,081,000	21·60	647·24
Agricultural products in the possession of farmers and traders	1,801,440,000	6·22	186·52
Totals, Agricultural Wealth, 1928	8,052,521,000	27·82	833·76
Mines (capital employed)	841,968,000	2·91	87·18
Forests (estimated value of accessible raw materials, pulpwood, and capital invested in woods operations)	1,866,613,000	6·45	193·27
Fisheries (capital invested in boats, gear, etc., in primary operations)	31,131,000	0·11	3·22
Central electric stations (capital invested in equipment, materials, etc.)	500,007,000	1·73	51·77
Manufactures (machinery and tools and estimate for lands and buildings in rural districts; duplication excluded)	1,356,306,000	4·69	140·43
Manufactures (materials on hand and stocks in process)	795,775,000	2·75	82·39
Construction, custom and repair (capital invested in machinery and tools, and materials on hand)	141,105,000	0·49	14·61
Trading establishments (furniture and fixtures, delivery equipment, and materials and stocks on hand)	1,066,901,000	3·68	110·47
Steam railways (investment in road and equipment)	3,020,060,000	10·43	312·70
Electric railways (investment in road and equipment)	230,694,000	0·80	23·89
Canals (amount expended on construction to Mar. 31, 1929)	232,273,000	0·81	24·05
Telephones (cost of property and equipment)	263,202,000	0·91	27·25
Urban real property (assessed valuations and exempted property and estimate for under-valuation by assessors and for roads, sewers, etc.)	7,582,784,000	26·20	785·13
Shipping	151,708,000	0·52	15·71
Imported merchandise in store (one-half imports during 1928)	611,141,000	2·11	63·28
Automobiles (estimate of the value of automobiles registered)	669,547,000	2·31	69·33
Household furnishings, clothing, etc. (estimated from production and trade statistics)	1,290,000,000	4·46	133·57
Specie, coin and other currency held by the government, chartered banks and the general public	236,479,000	0·82	24·48
Grand Totals	**28,940,000,000**	**100·00**	**2,996·49**

Analyses by Provinces and Classes of Wealth.—In Table 32 will be found detailed statistics of the wealth of each province by leading items. Again the suggestive character rather than the strict accuracy of such data must be emphasized. The specie holdings, for instance, are distributed among the provinces according to their populations since they are an asset of Canada as a whole rather than of the particular locality in which they happen to be deposited.

32.—Estimate of National Wealth of Canada, 1928, by Provinces and Classes.

Note.—For a fuller description of the various items, see the table immediately preceding.

Classification of Wealth.	Canada.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.
	$	$	$	$	$	$
Farm values	6,251,081,000	67,491,000	133,150.000	139,514,000	1,109,873,000	1,763,025,000
Agricultural products	1,801,440,000	22,234,000	41,871,000	34,605,000	291,131,000	515,723,000
Totals, Agricultural Wealth, 1928	8,052,521,000	89,725,000	175,021,000	174,119,000	1,401.004,000	2,278,748.000
Mines	841,968,000	[1]	67,330,000	3,331,000	133,351,000	325,845,000
Forests	1,866,613,000	–	70.143,000	121,577,000	604,878,000	324,999,000
Fisheries	31,131,000	751,000	7,355,000	4,033,000	1,992,000	3,432,000
Central electric stations	500,007,000	379.000	7,316,000	11,633,000	193,482,000	207,770,000
Manufactures (machinery and tools, and estimate for capital in rural lands and buildings; duplication excluded)	1,356,306,000	1,128,000	37,067,000	41,824,000	442,730,000	602,568,000
Manufactures (materials on hand and stocks in process)	795,775,000	486,000	18,127,000	20,959,000	248,069,000	417,438,000
Construction, custom and repair	141,105,000	189,000	3,415,000	1,903,000	42,464,000	55,024,000
Trading establishments (fixtures and delivery equipment and materials on hand)	1,066,901,000	4.831,000	39,485,000	34,591,000	287,881,000	385,493,000
Steam railways	3,020,060,000	20,486,000	105,476,000	143,629,000	364,379,000	806,547,000
Electric railways	230,694,000	–	9,622,000	3,064,000	63,264,000	106,911,000
Canals	232,273,000	–	1,494,000	44,000	35,750,000	194,985,000
Telephones	263,202,000	961,000	7,943,000	4,732,000	58,067,000	96,654,000
Urban real property	7,582,784,000	13,683,000	181,292,000	114,089,000	2,701,953,000	2,914,000,000
Shipping	151,708,000	949,000	14,040,000	3,709,000	55,774,000	40,758,000
Imported merchandise in store	611,141,000	935,000	15,750,000	12,512,000	157,581,000	313,053,000
Automobiles	669,547,000	3,421,000	21,945,000	17,608,000	90,718,000	306,731,000
Household furnishings, clothing, etc.	1,290,000,000	11,551,000	73,131,000	55,484,000	353,892,000	431,702,000
Specie, coin and other currency held by the Government, chartered banks and the general public.	236,479,000	2,118,000	13,406,000	10,171,000	64,874,000	79,138,000
Totals	**28,940,000,000**	**152,000,000**	**869,000,000**	**779,000,000**	**7,302,000,000**	**9,892,000,000**
Percentages	100·0	0·53	3·00	2·69	25·23	34·18

[1] Included in Nova Scotia.

32.—Estimate of National Wealth of Canada, 1928, by Provinces and Classes —concluded.

Classification of Wealth.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Yukon.
	$	$	$	$	$
Farm values	567,804,000	1,413,746,000	865,161,000	191,317,000	–
Agricultural products	155,177,000	409,309,000	277,877,000	53,513,000	–
Totals, Agricultural Wealth, 1928	722,981,000	1,823,055,000	1,143,038,000	244,830,000	–
Mines	15,755,000	5,647,000	118,557,000	159,446,000	12,706,000
Forests	40,797,000	83,691,000	126,067,000	494,461,000	–
Fisheries	1,055,000	119,000	416,000	11,965,000	13,000
Central electric stations	23,939,000	6,000,000	10,166,000	38,604,000	718,000
Manufactures (machinery and tools, and estimate for capital in rural lands and buildings; duplication excluded)	31,304,000	7,998,000	24,694,000	166,993,000	[2]
Manufactures (materials on hand and stocks in process)	24,194,000	8,600,000	15,065,000	42,837,000	[2]
Construction, custom and repair	9,632,000	8,448,000	7,529,000	12,501,000	–
Trading establishments	89,182,000	77,130,000	66,513,000	81,795,000	–
Steam railways	318,655,000	560,485,000	393,921,000	302,177,000	4,305,000
Electric railways	15,768,000	3,937,000	6,232,000	21,896,000	–
Canals	–	–	–	–	–
Telephones	19,187,000	31,098,000	23,920,000	20,621,000	19,000
Urban real property	464,960,000	230,991,000	239,545,000	722,271,000	–
Shipping	1,187,000	54,000	–	34,832,000	405,000
Imported merchandise in store	29,473,000	17,766,000	17,505,000	46,344,000	222,000
Automobiles	44,614,000	75,438,000	55,778,000	53,189,000	105,000
Household furnishings, clothing, etc.	87,571,000	113,775,000	84,482,000	77,944,000	468,000
Specie, coin and other currency held by Government, chartered banks and the general public	16,053,000	20,857,000	15,487,000	14,289,000	86,000
Totals	**1,956,000,000**	**3,075,000,000**	**2,349,000,000**	**2,547,000,000**	**19,000,000**
Percentages	6·76	10·63	8·12	8·80	0·06

[2] Included in British Columbia.

Subsection 2.—National Income.

The national income of Canada is necessarily less than its national production, a total for which is suggested in the general survey of production on pp. 193-198 of this volume. If, as there pointed out, there is no reason to suppose that those whose activities are not connected with the production of "form utilities" are less "productive" in the broad sense of the term than others, the total value of the production of 1928 must have been not less than $6,446,000,000.

In order to arrive at the figure of national income, however, certain heavy deductions from the above amount must be made—deductions especially connected with the maintenance of the industrial equipment of the country—providing not only for depreciation but for obsolescence and replacement by new and improved apparatus of production. Altogether, the charges under this head may have been not less than $400,000,000. This would leave the 1928 income of the Canadian people at somewhere in the neighbourhood of $6,000,000,000.

Incomes Assessed for Income War Tax in Canada.[1]—In those countries of the world where an income tax has been established for a considerable time the figures of the assessed income have been generally accepted as furnishing a guide both to the amount and to the distribution of the total national income by classes. Estimates of the national income, based upon income tax statistics, have been published, for example, in Great Britain and in the United States.

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[1] This material has been revised by the Income Tax Branch of the Department of National Revenue.

In Canada, the income tax is a newer thing than in either of the above-mentioned countries; also, in a newer country than either, incomes are to a greater extent received in kind. Both of these considerations render it improbable that so large a percentage of the total national income of Canada is brought under the notice of the income tax authorities as in Great Britain or the United States. Nevertheless, the data collected by the Income Tax Branch of the Department of National Revenue in the course of its administration of the income war tax, are significant both with regard to the total income assessed and with regard to the distribution of that income among various classes of the population, as well as by size of income groups.

In Canada, in the fiscal year ended Mar. 31, 1921, 3,696 corporations and 190,561 individuals paid income tax on incomes aggregating $912,410,429; in the following year 8,286 corporations and 290,584 individuals paid income tax on $1,462,529,170; in the fiscal year ended 1923, 6,010 corporations and 281,182 individuals paid income tax on $1,092,407,925; in the fiscal year ended 1924, 5,569 corporations and 239,036 individuals paid income tax on incomes aggregating $1,108,027,871; in the fiscal year ended 1925, 6,236 corporations and 225,514 individuals paid income tax on incomes aggregating $999,160,248; in the fiscal year ended 1926, 5,738 corporations and 209,539 individuals paid income tax on incomes aggregating $1,003,110,646. In the fiscal year ended 1927, after the exemption limit had been raised from $2,000 to $3,000 for married and from $1,000 to $1,500 for single persons, 116,029 individuals and 5,777 corporations paid income tax on incomes aggregating $744,184,891. In the fiscal year ended 1928, 122,026 individuals and 6,121 corporations paid income tax on incomes aggregating $1,040,232,948, in the fiscal year ended 1929, 129,663 individuals and 7,438 corporations paid income tax on incomes aggregating $1,195,402,266, and in the fiscal year ended 1930, 142,154 individuals and 7,957 corporations paid income tax on incomes aggregating $1,325,193,444. See Tables **33** to **35** for further details.

33.—Amount of Income Assessed for the Purposes of the Income War Tax, by Provinces, fiscal years ended Mar. 31, 1926-1930.

Province.	Amount of Income Assessed.				
	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$
Prince Edward Island	1,841,389	1,564,607	1,906,145	2,201,506	2,293,916
Nova Scotia	19,997,318	14,586,443	19,187,670	20,418,952	20,183,735
New Brunswick	19,098,829	14,727,822	15,855,847	16,638,582	16,743,421
Quebec	267,852,358	214,172,270	247,108,323	342,206,962	402,108,906
Ontario	466,678,836	330,875,841	501,698,431	554,038,353	599,709,588
Manitoba	67,156,023	50,118,276	73,008,012	69,131,365	83,659,145
Saskatchewan	25,848,382	27,080,457	39,130,763	45,770,126	42,729,044
Alberta	42,586,566	29,766,879	37,164,202	37,692,873	47,251,766
British Columbia	80,619,635	60,602,251	103,587,321	106,218,237	109,367,418
Yukon	1,431,310	690,045	1,586,234	1,085,310	1,146,505
Totals	**1,003,110,646**	**744,184,891**	**1,040,232,948**	**1,195,402,266**	**1,325,193,444**

34.—Number of Individual and Corporate Tax Payers, by Size of Income and Amount of Taxes Paid under the Income War Tax Act, fiscal years ended Mar. 31, 1927-1930.

1.—INDIVIDUALS.

Income class.	1927.		1928.		1929.		1930.	
	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.
		$		$		$		$
Under $2,000......	39,881	501,146	36,969	454,883	36,857	341,777	38,709	284,797
$ 2,000 to $ 3,000..	21,167	805,175	21,988	875,449	22,374	719,631	20,090	290,052
$ 3,000 to $ 4,000..	16,462	273,105	18,049	286,492	19,408	280,990	24,429	399,316
$ 4,000 to $ 5,000..	12,316	359,150	13,273	374,588	15,049	386,046	17,468	402,594
$ 5,000 to $ 6,000..	7,343	368,389	8,371	407,029	9,529	394,702	10,980	441,412
$ 6,000 to $ 7,000..	5,311	821,063	6,555	935,743	6,833	770,420	7,349	596,835
$ 7,000 to $ 8,000..	2,869	362,509	3,431	428,150	3,950	412,301	4,620	453,082
$ 8,000 to $ 9,000..	2,139	400,496	2,491	443,864	2,785	416,031	3,313	470,636
$ 9,000 to $10,000..	1,620	397,375	1,974	506,448	2,185	472,862	2,607	534,755
$10,000 to $15,000..	3,584	1,997,167	4,519	2,473,219	5,520	2,396,215	6,575	2,650,707
$15,000 to $20,000..	1,319	1,364,433	1,804	1,864,209	2,197	1,964,324	2,540	2,226,401
$20,000 to $25,000..	747	1,527,756	1,001	1,948,636	1,027	1,806,366	1,181	1,937,343
$25,000 to $30,000..	403	1,207,563	490	1,467,231	579	1,489,237	674	1,737,813
$30,000 to $50,000..	574	3,073,375	695	3,458,767	847	3,925,527	1,016	4,486,976
$50,000 and over...	294	4,718,891	416	7,552,499	523	9,328,921	603	10,571,399
Totals........	**116,029**	**18,177,593**	**122,026**	**23,477,207**	**129,663**	**25,105,350**	**142,154**	**27,484,118**
Unclassified amounts........	-	231,641	-	275,536	-	285,270	-	275,882
	-	18,409,234	-	23,752,743	-	25,390,620	-	27,760,000
Refunds...........	-	365,973	-	529,852	-	597,222	-	522,497
Net Totals....	**116,029**	**18,043,261**	**122,026**	**23,222,891**	**129,663**	**24,793,398**	**142,154**	**27,237,503**

2.—CORPORATIONS.

Income class.	1927.		1928.		1929.		1930.	
	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.
$ 2,000 to $ 3,000..	1,201	142,447	1,202	122,251	1,491	122,492	1,528	76,349
$ 3,000 to $ 4,000..	514	74,683	458	70,584	695	100,149	781	119,366
$ 4,000 to $ 5,000..	375	95,089	397	106,467	495	115,460	551	132,597
$ 5,000 to $ 6,000..	274	96,688	257	89,153	370	115,179	440	142,324
$ 6,000 to $ 7,000..	338	230,306	412	230,713	392	217,825	345	140,715
$ 7,000 to $ 8,000..	194	101,650	215	132,983	244	129,723	274	142,926
$ 8,000 to $ 9,000..	178	109,451	161	94,546	223	125,741	232	150,951
$ 9,000 to $10,000..	125	96,241	142	101,449	193	122,736	222	160,785
$10,000 to $15,000..	550	654,903	580	644,238	692	659,128	702	621,296
$15,000 to $20,000..	322	460,258	308	410,701	390	515,068	441	590,491
$20,000 to $25,000..	264	608,225	276	585,759	313	605,628	289	494,263
$25,000 to $30,000..	161	399,391	185	400,069	222	478,418	238	533,373
$30,000 to $50,000..	410	1,399,389	435	1,423,472	530	1,672,228	511	1,551,375
$50,000 and over...	865	25,124,296	1,086	29,772,475	1,181	30,410,897	1,398	37,244,203
Totals........	**5,777**[1]	**29,602,949**[1]	**6,121**[2]	**34,198,796**[2]	**7,438**[3]	**35,408,679**[3]	**7,957**[1]	**42,117,562**[4]
Unclassified Amounts.........	-	188,857	-	288,048	-	263,665	-	332,519
	5,777[1]	29,791,806[1]	6,121[2]	34,486,844[2]	7,438[3]	35,672,344[3]	7,957[4]	42,450,081[4]
Refunds...........	-	448,758	-	1,138,687	-	1,043,469	-	666.857
Net Totals...	**5,777**[1]	**29,343,048**[1]	**6,121**[2]	**33,348,157**[2]	**7,438**[3]	**34,628,875**[3]	**7,957**[4]	**41,783,224**[4]

[1] Totals include 6 corporations paying $9,932 in taxation, grouped to conceal net income and identity of taxpayer. [2] Totals include 7 corporations paying $13,936 in taxation, grouped to conceal net income and identity of taxpayers. [3] Totals include 7 corporations paying $18,007 in taxation, grouped to conceal net income and identity of taxpayer. [4] Totals include 5 corporations paying $16,548 in taxation, grouped to conceal net income and identity of taxpayers.

35.—Income Tax Paid, by Occupations of the Tax Payers, fiscal years ended Mar. 31, 1927-1930.

1.—INDIVIDUALS.

Occupation.	1927.		1928.		1929.		1930.	
	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.
		$		$		$		$
Agrarians	3,248	223,801	3,163	205,454	3,111	154,733	2,626	123,909
Professionals	6,387	1,248,191	6,088	1,444,098	6,771	1,621,398	7,439	1,716,675
Employees	81,456	7,838,527	83,146	8,522,507	87,469	7,838,590	95,328	8,336,416
Merchants, retail	8,124	950,688	8,685	1,041,337	9,229	1,217,292	11,117	1,248,277
Merchants, wholesale	833	255,680	1,178	421,517	1,411	481,835	1,500	464,726
Manufacturers	863	378,941	901	335,675	1,001	245,454	1,140	263,525
Natural resources	119	47,641	172	97,878	171	47,949	243	79,677
Financial	4,393	2,897,915	7,654	5,066,588	8,645	6,085,230	9,534	7,084,327
Personal corporations	128	717,174	470	2,583,228	644	3,523,192	912	3,614,204
Family corporations	279	318,150	1,138	740,578	2,247	1,269,858	3,129	1,881,138
All others	10,199	3,300,884	9,431	3,018,347	8,964	2,619,819	9,186	2,671,243
Unclassified	-	231,642	-	275,536	-	285,270	-	275,882
Totals	**116,029**	**18,409,234**	**122,026**	**23,752,743**	**129,663**	**25,390,620**	**142,154**	**27,759,999**
Refunds	-	365,973	-	529,852	-	597,222	-	522,497
Net Totals	**116,029**	**18,043,261**	**122,026**	**23,222,891**	**129,663**	**24,793,398**	**142,154**	**27,237,502**

2.—CORPORATIONS.

Occupation.	1927.		1928.		1929.		1930.	
	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.
Agrarians	45	54,596	35	33,812	83	50,418	111	58,028
Merchants, retail	1,042	2,033,838	1,246	2,273,736	1,478	2,546,367	1,551	2,836,933
Merchants, wholesale	739	1,994,352	826	2,245,549	1,019	2,637,469	1,071	2,981,802
Manufacturers	1,950	13,593,412	2,030	16,132,580	2,427	17,121,952	2,502	19,885,735
Natural resources	257	2,857,728	210	2,594,892	244	2,656,326	309	3,617,300
Financial	583	2,459,733	693	2,554,505	886	3,052,120	1,021	3,960,486
Transportation and public utilities	306	4,875,878	310	5,480,732	386	5,380,264	358	6,686,498
All others	855	1,733,412	771	2,882,990	915	1,963,764	1,034	2,090,779
Unclassified	-	188,857	-	288,048	-	263,664	-	332,520
Totals	**5,777**	**29,791,806**	**6,121**	**34,486,844**	**7,438**	**35,672,344**	**7,957**	**42,450,081**
Refunds	-	448,758	-	1,138,687	-	1,043,469	-	666,857
Net Totals	**5,777**	**29,343,048**	**6,121**	**33,348,157**	**7,438**	**34,628,875**	**7,957**	**41,783,224**
Grand Totals, Individuals and Corporations	-	**47,386,309**	-	**56,571,048**	-	**59,422,273**	-	**69,020,726**

Subsection 3.—Outside Capital Invested in Canada and Canadian Capital Invested Elsewhere.[1]

An estimate of the outside capital invested in Canada and the Canadian capital invested outside of the Dominion is now prepared annually by the Internal Trade Branch of the Dominion Bureau of Statistics. Any estimate of this character is liable to a margin of error, but the utmost care has been taken in the computation and it is believed that the figures approximate fairly to actual conditions. More complete information is being obtained from year to year, enabling corrections to be made in previous estimates such as were published at p. 836 of the 1929 Year Book. Details of the investment of outside capital in Canada are given for the four last available years in Table **36.**

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[1] Revised by Herbert Marshall, B.A., F.S.S., Chief, Internal Trade Branch, Dominion Bureau of Statistics. For a list of the publications of this Branch see Chapter XXVIII, under "Internal Trade".

It is estimated that the total investment of British and foreign capital in Canada on Jan. 1, 1929, was $5,904,169,000. Of this sum, $2,197,682,000 was British capital, $3,470,087,000 was from the United States and $236,400,000 from other countries. Though these totals are large, it should be remembered that the national wealth of the Dominion in 1928 is estimated at $28,940,000,000 (p. 871) exclusive of the value of those undeveloped natural resources in which some of the outside capital is invested, and that it is inevitable that at the present stage Canada should seek the assistance of outside capital to develop the undeveloped natural resources of the Dominion.

It must also be borne in mind that Canadians have invested large amounts of capital abroad. The Bureau estimates that Canadian investments in other countries amounted to $1,745,816,000 at the beginning of 1929, or nearly 30 p.c. of the amount of outside investments in Canada. Of this, $991,652,000 was placed in the United States, $95,916,000 in Great Britain and $658,248,000 in other countries.

It is estimated that the amount of business capital employed in Canada is $17,500,000,000. This sum includes the bonded indebtedness of Dominion, Provincial and municipal governments, investments in railways, all manufacturing concerns, mines and metal industries, public utilities, trading establishments, finance, insurance, land and mortgage. It does not include private capital in domestic enterprises such as farms, homes, etc. Of this sum it is estimated that 65 p.c. or $11,500,000,000 is owned in Canada; 20 p.c. or $3,500,000,000 in United States; 13 p.c. or $2,200,000,000 in Great Britain; 2 p.c. or $300,000,000 in other countries.

If the basis of comparison is total national wealth, foreign and British investments decrease in significance. Canada's national wealth in 1930 was probably $30,000,000,000; British and foreign investments in Canada were about $6,000,000,000 or 20 p.c.

36.—Estimated Total Investments of British and Foreign Capital in Canada, as at Jan. 1, 1926-1929.

(000's omitted.)

Item.	Investments of Great Britain.				Investments of United States.			
	Jan. 1, 1926.	Jan. 1, 1927.	Jan. 1, 1928.	Jan. 1, 1929.	Jan. 1, 1926.	Jan. 1, 1927.	Jan. 1, 1928.	Jan. 1, 1929.
	$	$	$	$	$	$	$	$
Government Securities (Dominion, Provincial and Municipal).......	*578,019	*565,148	*548,348	545,118	*703,984	*750,098	*775,310	758,075
Public Utilities—								
Railways........	*863,357	*862,315	*867,083	870,523	*536,409	*549,867	*608,818	638,384
Other public utilities (traction, light, heat, power, telephone, etc.)....	123,260	124,995	126,333	80,146	182,876	268,162	301,376	326,710
Industries—								
Pulp, paper and lumber........	42,441	53,920	61,326	61,496	351,709	377,722	450,506	485,389
Mining..........	90,384	91,384	94,388	109,137	216,508	217,908	224,914	256,798
Metal industries.	51,837	51,505	51,635	52,115	246,463	240,883	241,316	259,612
All other industries.......	105,056	111,878	116,485	122,500	409,779	403,896	411,814	425,797
Trading establishments...........	39,403	59,109	68,365	69,131	144,312	142,704	146,541	157,552
Finance and insurance.............	91,000	91,000	91,341	98,358	42,000	47,000	49,900	63,812
Land and mortgage	187,000	187,000	190,000	189,158	83,000	88,000	93,350	97,958
Totals........	***2,171,757**	***2,198,254**	***2,215,304**	**2,197,682**	***2,917,040**	***3,086,240**	***3,303,845**	**3,470,087**

Item.	Investments of Other Countries.				Grand Total British and Foreign Investments.			
	$	$	$	$	$	$	$	$
Government Securities (Dominion, Provincial and Municipal).......	*5,383	*5,242	*5,450	5,450	*1,287,385	*1,320,487	*1,329,107	1,308,642
Public Utilities—								
Railways........	*24,958	*27,458	*28,923	29,016	*1,424,726	*1,439,642	*1,504,825	1,537,924
Other public utilities (traction, light, heat, power, telephone, etc.)....	40,337	39,530	39,083	39,456	346,473	432,687	466,792	446,312
Industries—								
Pulp, paper and lumber........	72,850	62,759	61,956	62,091	467,000	494,401	573,788	608,976
Mining..........	13,858	14,058	15,562	16,721	320,750	323,350	334,864	382,656
Metal industries.	3,652	3,619	3,679	3,666	301,952	296,007	296,630	315,393
All other industries.......	6,514	6,476	10,466	11,589	521,349	522,250	538,765	559,886
Trading establishments...........	4,900	4,851	4,811	5,224	188,615	206,664	219,717	231,907
Finance and insurance.............	12,000	12,000	12,010	12,270	145,000	150,000	153,252	174,440
Land and mortgage	50,000	50,000	51,000	50,917	320,000	325,000	334,350	338,033
Totals........	***234,452**	***225,993**	***232,940**	**236,400**	***5,323,250**	***5,510,488**	***5,752,090**	**5,904,169**

*Revised.

37.—Estimated Total Investments of Canadian Capital in British and Foreign Countries, as at Jan. 1, 1927-1929.

(000's omitted.)

Item.	Jan. 1, 1927.				Jan. 1, 1928.			
	Great Britain.	United States.	Other Countries.	Total.	Great Britain.	United States.	Other Countries.	Total.
	$	$	$	$	$	$	$	$
Canadian Government credits and balances abroad.	500	10,815	36,111	47,426	7,779	7,032	32,433	47,244
Balances of chartered banks abroad..........	52,112	156,336	52,112	260,560	47,689	143,069	47,689	238,447
Foreign securities held by banks..	37,341	21,571	30,315	89,227	46,881	33,356	15,455	95,682
Investments of insurance companies abroad.......	16,976	165,717	86,766	269,459	18,016	175,871	92,082	285,969
Direct industrial investments.....	1,700	156,804	116,496	275,000	1,700	168,213	127,905	297,818
Miscellaneous......	9,850	212,085	166,979	388,914	9,850	347,085	256,979	613,914
Totals........	**118,479**	**723,328**	**488,779**	**1,330,586**	**131,915**	**874,626**	**572,543**	**1,579,074**

Item.	Jan. 1, 1929.			
	Great Britain.	United States.	Other Countries.	Total.
	$	$	$	$
Canadian Government credits and balances abroad...........	2,869	23,842	31,099	57,810
Balances of chartered banks abroad..........................	37,519	112,558	37,520	187,597
Foreign securities held by banks...........................	24,662	13,775	28,926	67,363
Investments of insurance companies abroad..................	20,016	184,902	95,082	300,000
Direct industrial investments................................	1,000	144,490	183,642	329,132
Miscellaneous..	9,850	512,085	281,979	803,914
Totals................................	**95,916**	**991,652**	**658,248**	**1,745,816**

CHAPTER XXII.—CURRENCY AND BANKING; LOAN AND TRUST COMPANIES.

Section 1.—Canada's Monetary System.

Historical.—Early trade in Canada was carried on by barter, which at times resulted (*e.g.*, in transactions between Indians and fur traders) in the adoption of beads, blankets, etc., as recognized media of exchange. Later, during the French period in Canada, while barter still formed perhaps the most important means of exchange between individuals and merchants, a more or less satisfactory currency system developed. Beaver and other furs, tobacco and wheat were at times used as substitutes for currency, the last named being at one time a legal tender. A makeshift currency system was also developed during the French *régime* when playing cards, stamped with a value and redeemable yearly on the receipt of bills of exchange on Paris, came into circulation. Other paper money was also issued, and the total amount outstanding at the time of the cession was estimated at 80,000,000 livres, which was nearly all lost to its holders.

The British Government next sought to establish a uniform standard of colonial currency, but since at this time French coinage again began to come into circulation and the Spanish dollar also rivalled the English shilling as the most common medium of exchange, this was not universally possible. English sovereigns were overrated in terms of dollars in an endeavour to encourage their circulation. A rate of 5s. to the dollar was set in Halifax and was in use in government accounting systems, while in Montreal York currency (the rates prevalent in New York), giving the dollar an exchange value of 7s. 6d. or 8s., was in common use.

Canadians again became more or less familiar with the characteristics of paper money as a result of the experiences of the various neighbouring Northern States during the first half of the nineteenth century. During the war of 1812 this familiarity was increased by the establishment of an army bill office, issuing bills of various denominations, redeemable on presentation. The growing volume of trade between Canada and the United States also resulted in a tendency toward a decimal coinage, and in 1853 a measure was passed providing for the adoption of a decimal currency, with a dollar equivalent to the United States dollar; the British sovereign was made legal tender at $4.86\frac{2}{3}$. An Act of 1857 requiring all government accounts to be kept in dollars and cents came into force on Jan. 1, 1858; the formal adoption of decimal currency in the province of Canada dates from that time.

By the Uniform Currency Act of 1871 (34 Vict., c. 4), the decimal currency was extended throughout the Dominion, the British sovereign was made legal tender for $4.86\frac{2}{3}$ and the United States eagle legal tender for $10, while authority was given to coin a Canadian $5 gold piece. No Canadian gold coinage was issued, however, prior to the establishment of the Canadian branch of the Royal Mint in 1908, the first coins then struck being sovereigns similar to those of Great Britain, but with a small " C " identifying them as having been coined in Canada. In May, 1912, the first Canadian $10 and $5 gold pieces were struck, but the Canadian gold coinage has so far been limited in amount, since Canadians have generally preferred Dominion notes to gold for use within the country, and when gold is needed for export bullion or British and United States gold coin serve the purpose equally well.

The Ottawa Branch of the Royal Mint.—The Ottawa Mint was established as a branch of the Royal Mint by the Ottawa Mint Proclamation, 1907, issued under the Imperial Coinage Act, 1870, and was opened on Jan. 2, 1908. Previously the British North American provinces, and later the Dominion of Canada, obtained their coins from the Royal Mint in London or from The Mint, Birmingham, Ltd., and in its earlier years the operations of the Mint in Canada were confined to the production of gold, silver, and bronze coins for domestic circulation, of British sovereigns, and of small coinages struck under contract for Newfoundland and Jamaica. Previous to 1914 small quantities of gold bullion were refined, but during the war the Mint came to the assistance of the British Government by establishing a refinery in which nearly twenty million ounces of South African gold were treated on account of the Bank of England, and the subsequent great development of the gold-mining industry in Canada has resulted in gold-refining becoming one of the principal activities of the Mint. Gold coins have never been a popular medium of exchange in Canada and none have been struck since 1919, most of the fine gold produced from the rough shipments from the mines being delivered to the Department of Finance in the form of bars worth between $10,000 and $11,000 each, the rest being sold in a convenient form to manufacturers. The fine silver extracted from the rough gold, when not required for coinage, is sold on the New York market or disposed of to local manufacturing firms.

Under its constitution as a branch of the Royal Mint the Ottawa Mint may coin and issue Imperial gold coins. The domestic currency of Canada, as at present authorized by the Currency Act, consists of $20, $10, $5 and $2½ gold pieces, 900 millesimal fineness (only $10 and $5 pieces have been issued); of $1, 50 cent, 25 cent, and 10 cent silver pieces, 800 millesimal fineness; of 5 cent pieces of pure nickel (from metal produced in Canada); and of one cent pieces in bronze. The silver 5 cent piece is still legal tender, but its coinage was discontinued in 1921, and the silver dollar has never been coined.

Gold.—Gold is used only to an insignificant extent as a circulating medium in Canada, its monetary use being practically confined to reserves, but 5-dollar and 10-dollar gold pieces weighing respectively 129 and 258 grains, 9-10ths pure gold by weight, have been coined, the Canadian gold dollar thus containing 23·22 grains of pure gold. These coins were first issued in 1912, authority to issue them having been conferred in 1910. By the Currency Act, 1910 (9-10 Edw. VII, c. 14), British sovereigns, which are legal tender for $4·86⅔, and other gold coins, and the 5-dollar, 10-dollar and 20-dollar gold coins of the United States, which contain the same weight of gold as Canadian gold coins of these denominations, are also legal tender. These, however, are almost entirely divided between the Dominion Government and the banks as reserves, and the chief circulating medium of the country is provided by paper and token currency.

Table **1,** compiled from the Report of the Deputy Master of the Mint, shows the value of the gold bullion received for treatment at the Ottawa branch of the Royal Mint since its foundation, together with the gold coin and bullion issued. A statement of the gold, silver, nickel and bronze coinages issued to the separate Provinces and to the Dominion of Canada since 1858 is published as Table **2.** Table **3,** compiled by the Dominion Comptroller of Currency, gives the form in which the gold has been held by the Government in recent years.

1.—Value of Gold Bullion Received for Treatment and Value of Gold Coin and Bullion Issued from the Ottawa Branch of the Royal Mint, 1908-1930.

Year.	Gold Received.	Gold Coin Issued.		Bullion Issued.	Total Issued.
		Sovereigns.	Canadian.		
	$	$	$	$	$
1908 to 1916	10,463,623·94	1,585,058·69	4,868,420	2,916,552·87	9,370,031·56
1917	834,507·05	910·07	–	1,836,741·72	1,837,651·79
1918	4,942,051·11	636,404·24	–	3,461,337·80	4,097,742·04
1919	10,757,173·72	832,404·40	–	10,162,325·22	10,994,729·62
1920	11,530,413·82	19·47	–	11,729,633·29	11,729,652·76
1921	16,915,038·45	661·86	–	16,598,784·71	16,599,446·57
1922	22,474,548·41	–	–	22,452,310·79	22,452,310·79
1923	12,687,098·94	–	–	13,219,784·95	13,219,784·95
1924	2,298,565·73	–	–	2,224,224·68	2,224,224·68
1925	2,492,403·07	–	–	2,529,713·69	2,529,713·69
1926	28,434,159·27	–	–	27,858,765·72	27,858,765·72
1927	29,936,535·82	–	–	30,013,576·98	30,013,576·98
1928	27,392,510·27	–	–	26,980,873·75	26,980,873·75
1929	9,061,523·51	–	–	9,682,363·42	9,682,363·42
1930	17,820,668·21	–	–	14,934,758·75	14,934,758·75
Totals	**560,939,068·10**[1]	**3,055,458·73**	**4,868,420**	**549,777,332·10**[2]	**557,701,210·83**[2]

[1] Includes $352,898,246·78 of Bank of England gold received between 1915 and 1919.
[2] Includes $353,175,583·76 of Bank of England bullion issued between 1915 and 1919.

2.—Statement of Coinage (in Dollars and Cents Denominations) Issued to the Dominion of Canada, 1858-1930.

Year.		Gold.	Silver.	Nickel.	Bronze.	Total.
		$	$	$	$	$
Struck at Mints in England[1]—						
1858 to 1907	New Brunswick, 1861-2-4	–	95,000	–	20,000	115,000
	Nova Scotia, 1861-2-4	–	–	–	30,000	30,000
	Prince Edward Island, 1871	–	–	–	10,000	10,000
	Canada, 1858-1907	–	12,459,996	–	804,429	13,264,425
Totals		–	12,554,996	–	864,429	13,419,425
Struck at The Royal Mint, Ottawa—						
1908 to 1916		4,868,420	8,595,327	–	459,204	13,922,951
1917		–	1,862,200	–	116,900	1,979,100
1918		–	2,402,000	–	131,817	2,533,817
1919		–	3,258,044	–	115,100	3,373,144
1920		–	1,356,000	–	209,085	1,565,085
1921		–	128,000	–	60,700	188,700
1922		–	24,000	69,000	12,400	105,400
1923		–	28,000	127,000	19,300	174,300
1924		–	–	74,500	11,900	86,400
1925		–	14,000	126,000	22,100	162,100
1926		–	50,000	168,500	28,200	246,700
1927		–	574,000	249,000	37,500	860,500
1928		–	867,000	250,000	92,100	1,209,100
1929		–	1,081,000	267,000	123,300	1,471,300
1930		–	326,000	164,500	13,400	503,900
Totals		**4,868,420**	**33,120,567**	**1,495,500**	**2,312,321**	**41,801,922**

[1] Struck at The Royal Mint in London, or at The Mint, Birmingham, Ltd.

3.—Composition of Canadian Gold Reserves on Dec. 31, 1905-1930.

Year.	British Coin.	U.S. Coin.	Canadian Coin.	Bullion.	Total.
	$	$	$	$	$
1905	3,990,717	29,494,298	–	–	33,485,015
1906	7,375,857	31,040,149	–	–	38,416,006
1907	5,366,478	33,529,889	–	–	38,896,367
1908	6,261,715	54,909,076	–	–	61,170,791
1909	6,537,227	62,988,474	–	–	69,525,701
1910	6,304,524	68,261,279	–	222,934	74,788,737
1911	6,900,095	93,507,764	–	222,934	100,630,793
1912	4,554,691	98,648,736	650,185	222,934	104,076,546
1913	6,391,375	106,642,969	2,118,210	222,934	115,375,488
1914	4,482,524	86,382,620	3,440,150	320,345	94,625,639
1915	29,606,990	86,516,595	3,436,095	775,201	120,334,881
1916	29,333,111	86,034,920	3,426,760	803,002	119,597,793
1917	27,476,790	77,899,494	3,413,465	11,352,856	120,142,605
1918	27,362,255	75,785,665	3,411,465	14,701,439	121,260,824
1919	27,661,192	60,988,110	3,408,310	27,154,222	119,211,834
1920	26,728,016	35,896,485	3,387,125	35,090,344	101,101,970
1921	26,729,501	35,896,305	3,385,690	18,558,557	84,570,053
1922	26,730,576	67,941,550	3,340,650	34,572,504	132,585,280
1923	27,212,790	41,090,395	3,336,490	46,026,852	117,666,527
1924	26,342,019	77,173,105	3,327,125	34,905,387	141,747,636
1925	29,894,943	67,135,310	3,315,730	37,512,195	137,858,178
1926	32,133,941	72,423,610	3,221,930	23,415,643	131,195,124
1927	28,948,085	51,179,390	3,089,010	47,516,079	130,732,564
1928	34,163,297	31,018,970	2,931,835	25,202,771	93,316,873
1929	32,164,284	10,995,220	2,801,520	17,034,256	62,995,280
1930	30,634,058	28,748,085	2,733,150	34,096,809	96,212,102

Token Currency.—Canadian silver dollars weighing 360 grains, 37-40ths fine, are provided for by the Currency Act of 1910, but no silver dollars have ever been struck by the Mint. Fifty, twenty-five, ten and five-cent pieces of weight proportionate to their respective fractions of the dollar, and of the same fineness, are in circulation, but, by c. 9 of the Statutes of 1920, the standard of fineness was reduced to 8-10ths. In 1921 the coinage of a nickel five-cent piece weighing 70 grains was authorized, and a number of these coins have appeared.[1] Silver coins are legal tender only up to ten dollars, nickel coins to five dollars, and bronze coins to twenty-five cents. Table 4 shows the *net* issue of silver and bronze coins (that is, the value issued less the value withdrawn), by years from 1901.

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[1] Nickel coinage issued to the Dominion of Canada from the Mint to Dec. 31, 1930, had a face value of $1,495,500. See Table 2.

4.—Circulation in Canada of Silver and Bronze Coin, Dec. 31, 1901-1930.

NOTE.—Figures supplied by the Mint.

Year.	Net Amounts of Silver Coin Issued.[2]		Amounts per head.		Net Amounts of Bronze Coin Issued.[2]		Amounts per head.	
	A. During the Year.	B. Since 1858.	Col. A.	Col. B.	C. During the Year.	D. Since 1858.	Col. C.	Col. D.
	$	$	cts.	$	$	$	cts.	cts.
1901	420,000	8,279,924	7·8	1·53	41,000	676,429	0·8	11·0
1902	774,000	9,053,924	14·0	1·64	30,000	706,429	0·5	12·8
1903	633,850	9,687,774	11·1	1·70	40,000	746,429	0·7	13·1
1904	350,000	10,037,774	5·9	1·71	25,000	771,429	0·4	13·1
1905	450,000	10,487,774	7·4	1·72	20,000	791,429	0·3	13·0
1906	807,461	11,295,235	12·8	1·79	41,000	832,429	0·6	13·2
1907	1,194,000	12,489,235	17·9	1·88	32,000	864,429	0·5	13·0
1908	38,541	12,527,776	0·6	1·80	21,604	886,033	0·3	12·8
1909	648,700	13,176,476	9·0	1·83	39,300	925,333	0·5	12·9
1910	1,151,186	14,327,662	15·4	1·91	42,020	967,353	0·6	12·9
1911	1,343,001	15,670,663	18·6	2·18	54,275	1,021,628	0·8	14·2
1912	1,303,237	16,973,900	17·7	2·30	49,977	1,071,605	0·7	14·5
1913	927,131	17,901,031	12·3	2·38	55,572	1,127,177	0·7	15·0
1914	626,198	18,527,229	8·1	2·41	35,057	1,162,234	0·4	15·1
1915	61,344	18,588,573	0·8	2·36	50,354	1,212,588	0·6	15·4

[2] These figures of *net* amount of coins issued show the value issued less the value withdrawn and to this extent do not correspond with the figures shown in Table 2.

4.—Circulation in Canada of Silver and Bronze Coin, Dec. 31, 1901-1930—concluded.

Year.	Net Amounts of Silver Coin Issued.[1]		Amounts per head.		Net Amounts of Bronze Coin Issued.[1]		Amounts per head.	
	A. During the Year.	B. Since 1858.	Col. A.	Col. B.	C. During the Year.	D. Since 1858.	Col. C.	Col. D.
	$	$	cts.	$	$	$	cts.	cts.
1916	1,179,516	19,768,089	14·7	2·46	110,646	1,323,234	1·4	16·5
1917	1,790,941	21,559,030	21·9	2·64	116,800	1,440,034	1·4	17·6
1918	2,329,091	23,888,121	28·0	2·87	131,777	1,571,811	1·6	18·9
1919	3,196,027	27,084,148	37·7	3·19	115,011	1,686,822	1·4	19·9
1920	1,300,702	28,384,850	15·1	3·29	208,961	1,895,783	2·4	22·0
1921	40,191	28,344,659	0·5	3·22	60,543	1,956,326	0·7	22·0
1922	–	28,151,444[2]	–	3·16	11,742	1,968,068	0·1	22·1
1923	–	28,052,347[2]	–	3·11	19,118	1,987,186	0·2	22·0
1924	–	27,863,502[2]	–	3·04	11,430	1,998,616	0·1	21·8
1925	–	27,713,019[2]	–	2·99	21,854	2,020,470	0·2	21·8
1926	–	27,433,463[2]	–	2·92	23,363	2,043,833	0·2	21·8
1927	–	27,104,534[2]	–	2·84	36,363	2,080,196	0·4	21·9
1928	633,429	27,737,963	6·5	2·87	91,461	2,171,657	0·9	22·4
1929	900,232	28,638,195	9·2	2·92	119,132	2,290,789	1·2	23·3
1930	–	28,562,330[2]	–	2·87	6,616	2,297,405	0·1	23·1

[1] The figures for *net* amount of coins issued show the value issued less the value withdrawn and to this extent do not correspond with the figures shown in Table 2.

[2] The decreases shown in recent years are due to the withdrawal of worn and mutilated silver coins from circulation.

Dominion Notes.—An important part of the Canadian monetary system is the paper currency of the Dominion Government. Under the Dominion Notes Act, 1914 (5 Geo. V, c. 4), the Dominion Government is authorized to issue notes up to and including $50,000,000 against a reserve in gold equal to one-quarter of that amount. By c. 4, Acts of 1915, "An Act respecting the Issue of Dominion Notes", the Dominion Government is authorized to issue notes up to $26,000,000 without any reserve of gold, $16,000,000 of the notes to be against certain specified Canadian railway securities guaranteed by the Dominion Government.[1] Notes may be issued to any additional amount in excess of $76,000,000, but (except as provided by the Finance Act, 1914—see footnote below) an amount of gold equal to the excess must be held. Thus Dominion notes normally approximate to gold certificates. Under the Act, the Government issues notes of the denominations of 25 cents, $1, $2, $4, $5, $50, $100, $500 and $1,000. In addition, "special" notes of the denominations of $500, $1,000, $5,000 and $50,000 (first issue of the last-mentioned September,

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[1] The following is an outline of Canadian legislation respecting the issue of notes. After Confederation, by an Act of 1868 (31 Vict., c. 46) authority was given for the issue of notes to the extent of eight million dollars. The reserve was fixed at 20 p.c. up to a circulation of five millions; beyond that, 25 p.c. to be held as reserve. The law of 1870 (33 Vict., c. 10) authorized a limit of nine million dollars. The reserve was fixed at 20 p.c., but the nine millions were only to be issued when the specie amounted to two millions. Dollar for dollar was to be held beyond nine millions. In 1872 (35 Vict., c. 7) the reserve for the excess over nine millions was fixed at 35 p.c. in specie. This was amended in 1875 (38 Vict., c. 5) by requiring dollar for dollar beyond twelve millions; for the reserve between nine and twelve millions 50 p.c. in specie was to be held. In 1876 the law respecting Dominion notes was extended to the provinces of Prince Edward Island, British Columbia and Manitoba. In 1880 (43 Vict., c. 13) the basis of the present standard was established. A reserve of 25 p.c. in gold and guaranteed debentures was required, of which 15 p.c. at least was to be in gold. The limit was raised to twenty million dollars. In 1894 (57-58 Vict., c. 21) the limit was raised to twenty-five millions, but this was found unworkable and was repealed in 1895 (58-59 Vict., c. 16), and authority was given to issue notes to any amount over twenty millions, on holding dollar for dollar beyond that sum. In 1903 (3 Edw. VII, c. 43) the Minister of Finance was required to hold gold and guaranteed debentures of not less than 25 p.c. on Dominion notes issued and outstanding up to thirty million dollars; beyond thirty millions he was required to hold gold equal to the excess. In 1914 (5 Geo. V, c. 4, assented to Aug. 22, 1914) this amount was raised to fifty millions and in 1915 (5 Geo. V, c. 4, assented to April 8, 1915) to seventy-six millions, under the conditions stated in the text. The Finance Act, 1914 (5 Geo. V, c. 3) makes provision, in case of war, panic, etc., for the issue of Dominion notes against approved securities; this emergency arrangement was made a permanent feature by c. 48 of the Statutes of 1923.

1918) are issued for use between banks only, the purpose being as a safeguard against theft. Table **5** gives the main statistics of Dominion notes outstanding and the reserves on which they have been based since 1890, Table **6** statistics of gold held by the Minister of Finance from 1919 to 1930, while Table **7** shows the use of notes of different denominations during the past six years.

5.—Dominion Notes Outstanding and Reserves as at June 30, 1890-1930.

Year.	Notes Outstanding.[1]					Reserves of Specie.	Notes Outstanding Uncovered by Specie.[5]	Percentages of Specie Reserve to Notes Outstanding.
	Notes, $1,2,4 and 5, and fractionals.[2]	Large Notes, $50, 100, 500, 1,000, 5,000.[3]	Total.					
			Amount.	Per capita.	Index No.[4]			
	$	$	$	$		$	$	p.c.
1890	6,665,942	8,691,950	15,357,892	3·20	65·3	3,285,515	10,125,711	21
1891	6,768,666	9,407,650	16,176,316	3·34	68·2	3,887,027	10,452,623	24
1892	6,898,348	10,384,350	17,282,698	3·53	72·0	5,061,577	10,414,455	29
1893	7,136,743	11,311,750	18,448,493	3·73	76·1	6,449,348	10,052,479	35
1894	6,967,818	13,093,900	20,061,718	4·09	83·5	8,292,405	9,822,647	41
1895	7,059,331	12,460,900	19,520,231	3·87	79·0	7,761,084	9,812,481	40
1896	7,377,096	12,995,100	20,372,196	4·00	81·6	8,758,252	9,667,295	43
1897	7,519,345	14,798,750	22,318,095	4·34	88·6	10,723,649	9,650,780	48
1898	8,157,243	14,020,950	22,178,193	4·26	86·9	10,813,739	9,417,788	49
1899	8,770,165	15,466,300	24,236,465	4·60	93·9	13,061,775	9,228,024	54
1900	9,640,473	16,454,450	26,094,923	4·90	100·0	12,476,044	11,672,213	48
1901	10,161,809	17,736,700	27,898,509	5·19	105·9	14,578,117	11,394,769	52
1902	11,029,985	21,750,400	32,780,385	5·92	120·8	18,901,639	11,932,080	58
1903	12,173,248	26,832,950	39,006,198	6·87	140·2	25,930,594	11,128,938	66
1904	12,581,833	28,992,950	41,574,783	7·13	145·5	23,422,625	16,205,492	56
1905	13,045,820	34,288,400	47,334,220	7·89	161·0	28,890,837	16,062,098	61
1906	14,633,576	35,307,850	49,941,426	8·09	165·1	29,013,931	18,980,829	58
1907	15,939,131	42,377,400	58,316,531	9·25	188·7	34,989,270	21,380,595	60
1908	15,279,675	47,778,450	63,058,125	9·71	198·2	39,141,184	21,950,275	62
1909	15,860,149	63,145,150	79,005,299	11·80	240·8	55,363,266	21,695,367	70
1910	17,871,477	71,414,250	89,285,727	12·90	263·3	66,409,121	20,929,940	74
1911	19,840,695	79,468,250	99,308,945	13·78	281·2	78,005,231	21,303,714	78
1912	22,982,588	88,949,650	111,932,238	15·19	310·0	92,442,098	19,490,140	82
1913	28,845,737	87,517,300	116,363,537	15·45	315·3	94,943,499	21,420,038	81
1914	24,586,448	89,595,650	114,182,098	14·84	302·8	92,663,575	21,518,523	81
1915	25,183,685	126,937,050	152,120,735	19·34	394·7	89,573,041	62,547,693	59
1916	27,283,425	148,213,750	175,497,175	21·84	445·7	114,071,032	61,426,143	66
1917	29,498,409	149,069,600	178,568,009	21·82	445·3	119,110,113	59,457,896	67
1918	32,623,514	248,716,000	281,339,514	33·78	689·4	114,951,618	166,387,896	41
1919	35,084,194	265,665,650	300,749,844	35·47	723·9	118,268,407	182,481,437	39
1920	37,203,890	254,812,400	292,016,290	33·83	690·4	95,538,190	196,478,100	33
1921	34,403,934	234,365,250	268,769,184	30·58	624·1	83,854,487	184,914,697	31
1922	31,404,161	201,344,250	232,748,411	26·13	533·3	85,495,068	147,253,343	37
1923	33,276,533	200,869,900	234,146,433	25·93	529·2	121,025,725	113,120,708	52
1924	34,816,442	175,492,150	210,308,592	22·98	469·0	96,732,954	113,575,638	46
1925	32,294,827	176,096,650	208,391,477	22·48	458·8	116,263,994	92,127,483	56
1926	32,512,285	143,200,630	175,712,915	18·71	381·8	94,999,481	80,713,434	54
1927	33,845,891	143,160,024	177,005,915	18·59	379·4	105,700,181	71,305,734	60
1928	35,051,708	165,703,650	200,755,358	20·79	422·4	80,756,302	119,999,056	40
1929	37,159,177	172,803,650	209,962,827	22·55	460·0	58,931,581	151,031,246	28
1930	37,029,484	137,189,150	174,218,634	17·54	358·0	65,719,661	108,498,973	38

[1] Includes Dominion notes in the central gold reserves as security for bank note circulation.

[2] Includes provincial notes amounting to $32,857 in 1890 and reduced gradually to $27,603 on June 30, 1930.

[3] Includes issue of $50,000 notes, 1919-1930.

[4] Per capita circulation in 1900 is taken as 100.

[5] The circulation uncovered by specie reserve was to a considerable extent covered, between 1890 and 1910, by the holdings of guaranteed debentures amounting to $1,946,666. Since 1914 a part of the issue of Dominion notes outstanding has been covered by the holding of securities approved under the Finance Act, 1914, and the Finance Act, 1923. On June 30, 1930, the Dominion notes outstanding against securities approved under the Finance Act, 1923, amounted to $49,700,000.

6.—Gold Held by the Minister of Finance, calendar years 1919-1930.[1]

Year.	Gold Reserve Held on Savings Bank Deposits.[2]	Gold Held for Redemption of Dominion Notes.	Total Gold Held by Minister of Finance.
	$	$	$
1919	4,909,675	118,489,692	123,399,367
1920	4,067,897	98,751,773	102,819,670
1921	3,666,009	84,568,064	88,234,073
1922	3,293,287	89,939,108	93,232,395
1923	3,154,358	120,651,627	123,805,985
1924	3,308,575	107,257,428	110,566,003
1925	3,241,490	119,744,819	122,986,309
1926	3,162,930	109,369,550	112,532,480
1927	3,083,440	107,417,631	110,501,071
1928	2,994,001	89,218,454	92,212,455
1929	2,709,169	59,345,233	62,054,402
1930	2,483,959	79,000,297	81,484,256

[1] Yearly averages. [2] In the Savings Bank Act (c. 15, R.S.C., 1927) it is provided that the Minister of Finance shall hold 10 p.c. reserve against savings bank deposits.

7.—Denominations of Dominion Notes in Circulation, Mar. 31, 1925-1930.

Denomination.	1925.	1926.	1927.	1928.	1929.	1930.
-	$	$	$	$	$	$
$1	16,294,009	16,943,454	17,428,021	18,100,000	19,277,085	18,943,815
$2	11,617,597	12,231,463	12,609,981	13,039,460	13,824,977	13,776,806
$4	34,259	33,547	33,071	32,635	32,223	31,887
$5	1,959,850	428,672	700,147	294,072	277,612	1,109,693
$50	650	650	650	650	650	650
$500	1,826,000	1,790,500	1,736,000	1,791,500	1,832,000	1,907,500
$1,000	3,306,000	3,344,000	4,103,000	4,244,000	4,289,000	4,569,000
$1,000 special	555,000	648,000	433,000	281,000	427,000	479,000
$5,000 special	24,240,000	16,600,000	9,950,000	7,810,000	7,570,000	6,700,000
$50,000 special	145,550,000	129,200,000	123,800,000	141,650,000	155,550,000	125,400,000
Fractional currency	1,301,036	1,335,494	1,346,145	1,360,549	1,392,463	1,380,648
Provincial notes	27,687	27,624	27,624	27,624	27,624	27,619
Totals	**206,712,088**	**182,583,404**	**172,167,639**	**188,631,490**	**204,500,633**	**174,326,618**

Bank Notes.—Bank notes form the chief circulating medium in use in Canada. Under the Canadian Bank Act, the banks are authorized to issue notes of the denominations of $5 and multiples thereof to the amount of their paid-up capital. These notes are not in normal times legal tender.

In addition, during the period of the movement of the crops (Sept. 1 to Feb. 28-29), the banks may issue "excess" circulation to the amount of 15 p.c. of their combined capital and "rest" or reserve funds. In the event of war or panic the Government may permit the "excess" to run all the year. The banks pay interest on this excess at 5 p.c. If a bank desires to extend its circulation, it may also do so by depositing dollar for dollar in gold or Dominion notes in the central gold reserves.

In case of insolvency the notes of a bank are a first lien upon its assets. Notes are further secured, in case of insolvency, by the bank circulation redemption fund, to which all banks contribute on the basis of 5 p.c. of their average circulation not covered by gold or Dominion notes deposited in the central gold reserves established in 1913. The sum thus secured is available for the redemption of the notes of failed banks.

The figures of bank note circulation are given in Table **8.** Table **9** brings together the statistics of the amount of circulating media in the hands of the general public, yearly averages being used where possible. "In the hands of the general public" here includes currency in the tills of the banks in the process of ordinary exchange as well as that outstanding among the general public, but does not include Dominion notes of denominations larger than five dollars which are used almost entirely for inter-bank transactions and reserves. In both Tables **8** and **9** "bank notes in circulation" include notes of other banks held by the banks, averaging about $15,000,000 in 1930. In the case of the silver, nickel and bronze coinage in Table **9**, the figures are the total amounts issued by the mint since 1858 less amounts withdrawn from circulation and therefore include amounts held by the banks as well as coins lost by the public, which over such a period would probably amount to a considerable sum.

8.—Statistics of Bank Note Circulation, calendar years 1900-1930.

NOTE.—The statistics in this table are averages computed from monthly returns in each year. Figures for 1892-99 will be found at p. 861 of the 1927-28 Year Book.

Year.	Paid up Capital.	"Rest" Fund.	Bank Circulation Redemption Fund.[1] (Deposited with Minister of Finance.)	Bank Notes in Circulation.		
				Amount.	Per capita.	Index No. per capita.[2]
	$	$	$	$	$	$
1900	65,154,594	32,372,394	2,221,128	46,574,780	8·75	100·0
1901	67,035,615	36,249,145	2,487,541	50,601,205	9·36	107·[illegible]
1902	69,869,670	40,212,943	2,832,401	55,412,598	10·02	114·5
1903	76,453,125	47,761,536	2,971,260	60,244,072	10·62	121·4
1904	79,234,191	52,082,335	3,237,891	61,769,888	10·60	121·1
1905	82,655,828	56,474,124	3,448,463	64,025,643	10·68	122·1
1906	91,035,604	64,002,266	3,923,531	70,638,870	11·44	130·7
1907	95,953,732	69,806,892	4,304,524	75,784,482	12·02	137·4
1908	96,147,526	72,041,265	4,249,367	71,401,697	11·00	125·7
1909	97,329,333	75,887,695	4,317,006	73,943,119	11·04	126·2
1910	98,787,929	79,970,346	4,844,475	82,120,303	11·87	135·7
1911	103,009,256	88,892,256	5,353,838	89,982,223	12·57	143·7
1912	112,730,943	102,090,476	6,211,881	100,146,541	13·60	155·4
1913	116,297,729	109,129,393	6,536,341	105,265,336	13·98	160·0
1914	114,759,807	113,130,626	6,693,684	104,600,185	13·60	155·4
1915	113,982,741	113,020,310	6,756,648	105,137,092	13·37	152·8
1916	113,175,353	112,989,541	6,811,213	126,691,913	15·77	180·2
1917	111,637,755	113,560,997	6,324,442	161,029,606	19·69	225·0
1918	110,618,504	114,041,500	5,817,646	198,645,254	23·85	272·6
1919	115,004,960	121,160,774	6,054,419	218,919,261	25·82	295·1
1920	123,617,120	128,756,690	6,122,715	228,800,379	26·51	303·3
1921	129,096,339	134,104,030	6,417,287	194,621,710	22·15	253·1
1922	125,456,485	129,627,270	6,493,593	166,466,109	18·69	213·6
1923	124,373,293	126,441,667	6,662,665	170,420,792	18·88	215·8
1924	122,409,504	123,841,666	6,347,378	166,136,765	18·16	207·5
1925	118,831,327	123,295,866	6,026,617	165,235,168	17·83	203·8
1926	116,638,254	125,441,700	5,790,572	168,885,995	17·99	205·6
1927	121,666,724	130,320,897	5,861,646	172,100,763	18·08	206·6
1928	122,839,879	134,087,485	6,027,466	176,716,979	18·30	209·1
1929	137,269,085	150,636,682	6,246,861	178,291,030	18·19	207·9
1930	144,560,874	160,639,246	6,590,934	159,341,085	16·05	183·5

[1] This fund is in cash, *i.e.* gold or Dominion notes.

[2] Circulation per capita in 1900 is taken as 100.

9.—Circulating Media in the Hands of the General Public, calender years, 1900-1930.

—concluded on p. 889.

Year.	Silver.[4]		Nickel.[4]		Bronze.[4]		Bank Notes.	
	Amount.	Per capita.	Amount.	Per capita.	Amount.	Per capita.	Amount.[1]	Per capita.
	$	$	$	$	$	$	$	$
1900.....	7,911,998	1·49	–	–	635,429	·11	46,574,780	8·75
1901.....	8,279,924	1·53	–	–	676,429	·12	50,601,205	9·36
1902.....	9,053,924	1·64	–	–	706,429	·13	55,412,598	10·02
1903.....	9,687,774	1·70	–	–	746,429	·13	60,244,072	10·62
1904.....	10,037,774	1·71	–	–	771,429	·13	61,769,888	10·60
1905.....	10,487,774	1·72	–	–	791,429	·13	64,025,643	10·68
1906.....	11,295,235	1·79	–	–	832,429	·13	70,638,870	11·45
1907.....	12,489,235	1·88	–	–	864,429	·13	75,784,482	12·03
1908.....	12,527,776	1·80	–	–	886,033	·13	71,401,697	11·00
1909.....	13,176,476	1·83	–	–	925,333	·13	73,943,119	11·04
1910.....	14,372,662	1·91	–	–	967,353	·13	82,120,303	11·87
1911.....	15,670,663	2·18	–	–	1,021,628	·14	89,982,223	12·49
1912.....	16,973,900	2·30	–	–	1,071,605	·15	100,146,541	13·60
1913.....	17,901,031	2·38	–	–	1,127,177	·15	105,265,336	13·98
1914.....	18,527,229	2·41	–	–	1,162,234	·15	104,600,185	13·60
915.....	18,588,573	2·36	–	–	1,212,588	·15	105,137,092	13·37
1916.....	19,768,089	2·46	–	–	1,323,234	·17	126,691,913	15·77
1917.....	21,559,030	2·64	–	–	1,440,034	·18	161,029,606	19·69
1918.....	23,888,121	2·87	–	–	1,571,811	·19	198,645,254	23·12
1919.....	27,084,148	3·19	–	–	1,686,822	·20	218,919,261	23·82
1920.....	28,384,850	3·29	–	–	1,895,783	·22	228,800,379	26·51
1921.....	28,344,569	3·22	–	–	1,956,326	·22	194,621,710	22·15
1922.....	28,151,444	3·16	69,000	·01	1,968,068	·22	166,466,109	18·69
1923.....	28,052,347	3·11	196,000	·02	1,987,186	·22	170,420,792	18·88
1924.....	27,863,502	3·04	270,488	·03	1,998,616	·22	166,136,765	18·16
1925.....	27,713,019	2·99	396,471	·04	2,020,470	·22	165,235,168	17·83
1926.....	27,433,463	2·92	564,865	·06	2,043,833	·22	168,885,995	17·99
1927.....	27,104,534	2·84	813,784	·08	2,080,196	·22	172,100,763	18·08
1928.....	27,737,963	2·87	1,063,627	·11	2,171,657	·23	176,716,979	18·12
1929.....	28,638,195	2·92	1,330,498	·14	2,290,789	·23	178,291,030	18·18
1930.....	28,562,330	2·87	1,494,525	·15	2,297,405	·23	159,341,085	16·05

For footnotes see end of table, p. 889.

9.—Circulating Media in the Hands of the General Public, calendar years, 1900-1930—concluded from p. 888.

Year.	Dominion Notes, $1, $2, $4, $5 and fractionals.[2]		Totals.		
	Amount.[1]	Per capita.	Amount.	Per capita.	Index Number per capita.[3]
	$	$	$	$	$
1900	9,997,044	1·88	65,119,251	12·24	100·0
1901	10,595,169	1·97	70,152,727	13·06	106·7
1902	11,442,138	2·07	75,615,089	13·67	111·7
1903	12,321,172	2·17	82,999,447	14·63	119·5
1904	12,813,912	2·20	85,393,003	14·66	119·8
1905	13,499,894	2·25	88,804,740	14·82	121·1
1906	14,797,483	2·40	97,564,017	15·81	129·2
1907	15,973,227	2·53	105,111,373	16·68	136·3
1908	15,615,082	2·41	100,430,588	15·47	126·4
1909	16,235,774	2·43	104,280,702	15·58	127·3
1910	18,098,111	2·62	115,513,429	16·70	136·4
1911	21,497,429	2·98	128,171,943	17·79	145·3
1912	27,277,341	3·70	145,469,387	19·75	161·3
1913	29,067,278	3·86	153,360,822	20·37	166·4
1914	26,954,063	3·51	151,253,711	19·66	160·6
1915	25,881,570	3·29	150,819,823	19·18	156·7
1916	27,857,543	3·47	175,640,779	21·86	178·6
1917	31,221,311	3·82	215,249,981	26·31	214·9
1918	34,146,836	4·10	258,252,022	31·01	253·3
1919	35,492,643	4·19	283,182,874	33·40	272·8
1920	37,272,725	4·22	296,353,737	34·33	280·5
1921	33,825,582	3·85	258,748,277	29·44	240·5
1922	31,888,024	3·58	228,542,645	25·65	209·6
1923	33,387,155	3·70	234,043,480	25·92	211·8
1924	34,332,178	3·75	230,601,549	25·20	205·9
1925	32,175,284	3·47	227,540,412	24·55	200·6
1926	32,675,174	3·48	231,603,330	24·67	210·6
1927	33,689,474	3·54	235,788,751	24·77	202·4
1928	35,093,625	3·63	242,793,302	25·13	205·3
1929	36,811,966	3·75	247,362,478	25·23	206·1
1930	36,431,368	3·67	228,126,713	22·97	187·7

[1] Yearly averages.
[2] Dominion notes of larger denominations in hands of banks are not included, but provincial notes, amounting to $27,609 in 1930, are included.
[3] Per capita circulation in 1900=100.
[4] Figures supplied by the Mint as at Dec. 31 of each year, are the net issues of coinage since 1858 (see Table 4 of this chapter pp. 883-4).

Section 2.—Banking in Canada.

Historical.—In the early days of banking one of the chief functions of banks was to issue promissory notes payable to the bearer on demand; where the bank's credit was good these notes passed freely from hand to hand, creating the chief circulating medium in the Canadas. In some cases in the Maritime Provinces bank notes were preferred to those issued by the Provincial Governments.

The need of a uniform circulating medium in Canada was felt by the merchants of Montreal toward the end of the eighteenth century, and the prospectus of a proposed bank of issue to be known as the Canada Banking Company was issued in 1792. This scheme, however, depended chiefly on the co-operation of British capital and was frustrated by the outbreak of war with France. A second project in 1808 for the incorporation of a Bank of Canada failed to secure the assent of the Legislature of Lower Canada.

At the close of the war of 1812 the army bill currency was withdrawn, and public attention once more turned to the expediency of securing a currency through the establishment of banks. The Bank of Montreal began business toward the end of 1817 as a private institution, under articles of association based on the first charter of the Bank of the United States. In the following year under similar articles of association the Quebec Bank was established, as well as the Bank of Canada at Montreal and the Bank of Upper Canada at Kingston. The three Lower Canadian institutions obtained their provincial charters in 1822, while the Bank of Upper Canada was superseded by a second Bank of Upper Canada established at York (Toronto) as a chartered bank in 1821. Meanwhile the Bank of New Brunswick had been incorporated in 1820, while in Nova Scotia the Halifax Banking Co. (private) commenced business in 1825, and the Bank of Nova Scotia received a regular charter in 1832. With all of these earlier banks note issue was an important part of their business.

The Bank of British North America, previously incorporated in Great Britain, commenced business in Canada in 1836, while Molsons' Bank was established in 1853, the Bank of Toronto in 1855, the Banque Nationale in 1860 and the Banque Jacques-Cartier (later the Banque Provinciale du Canada) in 1862. The Union Bank was established in 1866, the Canadian Bank of Commerce in 1867. There were no fewer than 28 banks in existence at Confederation. These were as follows:—

Ontario and Quebec.

Bank of Montreal,
Quebec Bank,
Commercial Bank of Canada,
City Bank,
Gore Bank,
Bank of British North America,
Banque du Peuple,
Niagara District Bank,
Molsons' Bank,
Bank of Toronto,
Ontario Bank,
Eastern Townships Bank,
Banque Nationale,
Banque Jacques Cartier,
Merchants' Bank of Canada,
Royal Canadian Bank,
Union Bank of Lower Canada,
Mechanics' Bank,
Canadian Bank of Commerce.

Nova Scotia.

Bank of Yarmouth,
Merchants' Bank of Halifax,
People's Bank of Halifax,
Union Bank of Halifax,
Bank of Nova Scotia.

New Brunswick.

Bank of New Brunswick,
Commercial Bank of New Brunswick,
St. Stephen's Bank,
People's Bank of New Brunswick.

Subsection 1.—The Canadian Banking System in General.[1]

A brief *résumé* of the Canadian banking system must emphasize: (1) its growth, from the beginning closely related to the Montreal produce and export trade; (2) its development of the branch bank system in order to meet the demands of a rapidly moving frontier of settlement; (3) its adaptation to the requirements of the grain and cattle trade of the west; and (4) the consolidation during later years of the features which tended towards its early success. The development of a stable system has been accompanied by failures,[2] particularly marked about the middle of the 19th century, but progress has nevertheless been steady, based on sound principles, and adapted as closely as could be to the particular needs of the country.

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[1] For details regarding Canadian bank note issue, see page 886.

[2] See Table 23, pp. 909-10.

The branch bank forms perhaps the most distinctive feature of the Canadian system as it exists to-day, and for a country such as Canada, vast in area and with a small population, the plan has proved a good one. A result of the growth of branch banks has been the partially centralized system that now obtains—centralized as to banks, of which there are now 11, rather than as to districts as in the partially centralized system of the United States.

A second peculiarity of the system may be noted—the existence and operation of the Canadian Bankers' Association. Through this body, which was incorporated in 1900 and acts under the authority of the Dominion Treasury Board, co-operation of individual banks is facilitated and encouraged. The association supervises clearing-house transactions, appoints curators to supervise the affairs of banks which have suspended business, and oversees the printing and issue of notes to its members. Adherence to similar principles and a linking together of the credit of the system result from the co-operation secured through the association.

The elimination of weaker banks or their amalgamation with more stable ones has been a progressive move towards greater efficiency. Co-operation between the banks and the Dominion Government has been made permanent through the medium of periodic returns and the regulation of note issues and reserves.

Apart from the many detailed services rendered to its clients, the Canadian banking system may be said to perform three main functions. In brief they are as follows:—

1. To put into circulation the paper currency which forms the circulating medium for small exchanges.

2. To provide a mechanism of exchange by the issue of bills of exchange, etc.

3. To form a means by which the credit of the banks and their unused deposits may be put to immediate productive use.

Bank Legislation.[1]—The history of Canadian banking legislation began over a century ago with the granting, between 1820 and 1822, of the Royal Assent to charters incorporating the Bank of New Brunswick, the Bank of Upper Canada, the Bank of Montreal, the Quebec Bank and the Bank of Canada. The right to issue bank notes existed and was exercised by private banks without legislative sanction for a considerable period after the early charters were granted, and before banks became the subject of general legislation. In Lower Canada the practical monopoly of issue was conferred upon the chartered banks by an Act of 1830, whereby the total amount of notes of less than £1 ($4)[2] in circulation might not at any time exceed one-fifth of the paid-up capital, and no notes under 5 shillings ($1) might be issued, it being further provided that all issues of less than £1 might be limited or suppressed by the Legislature.

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[1] Revised from information furnished by the Office of the Inspector-General of Banks, Department of Finance.

[2] In the "Old Currency" £1 was equivalent to $4 and 1 shilling to 20c.

In 1841, in the first session of the Canadian Legislature after the Union, a tax of 1 p.c. was imposed upon bank-note circulation, which was limited to the amount of paid-up capital, notes of less than £1 not to exceed one-fifth of such capital. Various charters granted or renewed after the Union included provisions prohibiting banks from holding shares of their own stock or granting advances there-against. They were also prohibited from lending on the security of lands, houses, ships or pledge of merchandise (though such could be taken as additional security for debts previously contracted) or holding lands or houses except for the transaction of their business, neither could they own ships or be engaged in trade except as dealers in bullion or bills of exchange, the object being to confine transactions to legitimate banking business. Statements of assets and liabilities were to be submitted periodically—half-yearly or yearly—and such further information as the Government might call for was to be supplied confidentially. A further and important enactment was the imposition of the double liability upon shareholders, which had not previously existed with respect to the banks of Lower Canada, although it had for several years been a requirement of the younger banks of Upper Canada and first appeared in British North America in the Act incorporating the Bank of Nova Scotia enacted in 1832. Suspension of specie payments on demand for a period of 60 days, either consecutively or at intervals during one year, was to cause forfeiture of charter. Total liabilities were not to exceed thrice "the aggregate amount of capital stock paid in, and the deposit made in the bank in specie and Government securities for money", but this provision proved of doubtful utility.

In 1850 what was known as the "Free Banking Act" prohibited any but the chartered banks or other corporations or persons authorized under the new Act from issuing notes. A period of one year was allowed for banks or companies whose right of issue was thus withdrawn to retire their notes outstanding. It was provided that individuals or partners might establish banks, or joint stock companies with a minimum capital of £25,000 ($100,000) might be formed to carry on the business, but in such cases operations were to be confined to an office in but one place and total liabilities were not to exceed thrice the amount of paid-up capital. In order to issue notes the banks thus formed were obliged to deposit with the Receiver-General provincial or provincially guaranteed securities for not less than £25,000 ($100,000) par value, receiving therefor registered notes. The chartered banks already existing could surrender their right of circulation against assets and secure from the Receiver-General registered notes in return for the deposit of securities, which special issue was not subject to the 1 p.c. tax imposed by the Act of 1841. The legislation included provisions giving effect for the first time to the principle of making bank notes a preferred claim, it being stipulated with respect to any one-office banks established under the Act that, if securities against outstanding notes did not realize sufficient, the general assets of a bank, if wound up, were first to be applied towards the payment of its notes.

Legislation of 1851 increased from one to five years the period allowed for the retirement of note issues not in conformity with previous legislation, provided at least one-fourth of the average circulation during the year 1850—and not secured by the pledge of bonds—was retired annually. Provision was made for partial remission and entire exemption within a specified period of the tax on bank-note circulation, subject to certain restriction of such circulation. At the same time permission was granted to issue in excess of the restricted formula against gold or silver coin or bullion, or debentures of any kind issued by the Receiver-General, without requiring the banks actually to deposit such debentures and secure registered notes. The debentures, however, were to be applicable exclusively to the redemption of notes in case of failure. Monthly rather than half yearly returns now became necessary. In 1853, to encourage the issue of "secured" notes, the issue was permitted in excess of paid-up capital to the extent of specie holdings or debentures receivable, although actual deposit of securities with the Receiver-General was not required. The tax of 1 p.c. was to be calculated only on the average circulation outstanding in excess of such specie and security holdings. Until 1858 banks charging or receiving interest at a rate higher than 6 p.c. were liable to onerous penalties. In that year it was enacted generally that any rate of interest might be exacted, but banks were prohibited from taking or stipulating for a higher rate than 7 p.c. In 1859, at the urgent request of the banks, a measure was passed authorizing them to make advances on the security of bills of lading and warehouse receipts covering certain commodities.

By 1861-2 free banking had practically run its course. In all, six banks had taken advantage of the legislation, one of which—the Bank of British North America—doubtless found it valuable. The others did not thrive. The Act was finally repealed by the Provincial Notes Act of 1866, which aimed at a gradual reduction in the volume of bank-note circulation.

By Section 91 of the British North America Act, the right to legislate respecting banking, the incorporation of banks and the issue of paper money was assigned exclusively to the Dominion Parliament. A temporary measure was passed in 1867, largely by way of re-enactment until 1870 of previous legislation, but extending the powers of banks formerly incorporated by any of the provinces to the territory of the whole Dominion, and subjecting banks in New Brunswick and Nova Scotia to a tax of 1 p.c. upon the excess of their average notes in circulation above their average holdings of coin and bullion. (In these provinces there had been no general banking Act, special provisions being embodied in the respective charters which differed in only a few essential respects from those granted in Upper and Lower Canada.) It was re-enacted that banks were entitled to hold and dispose of mortgages on realty as additional security for debts already contracted and to acquire title to mortgaged property if necessary.

The Bank Act of 1870 provided for a minimum paid-up capital of $200,000 for new banks and that at least 20 p.c. of the subscribed capital must be paid up in each year after the commencement of business. A proposal to limit the liabilities of banks in relation to capital and specie and Government debenture holdings was not translated into legislation. Bank notes in circulation were not to exceed the amount of paid-up capital. The right to issue notes under $4 was withdrawn, largely in consideration of the abolition of the tax of 1 p.c. on note circulation. If possible up to 50 p.c., but in no case less than one-third of a bank's cash reserves were to be held in Dominion notes. Dividends were limited to 8 p.c. until or unless the bank's reserve fund was the equivalent of 20 p.c. of its paid-up capital. In case of the failure of a bank, double liability of shareholders became enforcible without waiting for the realization of the bank's general assets. Banks were required to transmit certified lists of shareholders annually to be laid before Parliament. Any existing bank was permitted, on the authority of the shareholders, to apply for an extension of its charter, and the Governor-in-Council, upon the recommendation of the Minister of Justice and the Treasury Board, was empowered to extend such charter to 1881. Any suspension by a bank of payment of its liabilities for a period of 90 days would constitute insolvency, and operate as a forfeiture of its charter.

In 1871 the first comprehensive Banking Act of the Dominion was passed. A large part of the Statute was devoted to the re-enactment and consolidation of legislation already in force, although the measure of 1870 contained the main features of the Government's policy. The procedure relative to extension of charters laid down in the preceding year was superseded by this Act, which became the charter of the banks until July 1, 1881, that date being set in contemplation of regular decennial revisions. No new bank was permitted to commence business with less than $500,000 capital *bona fide* subscribed and $100,000 similarly paid up, with the further proviso that at least $200,000 must be paid up within two years after commencement of business. The sections respecting loans against warehouse receipts, etc., were thoroughly revised and difficulties of procedure removed. Banks were permitted to take security on commodities in store pending marketing and also while undergoing conversion from the raw to the finished state. Advances were allowed upon security of shares of other banks. It was provided that a bank might charge any rate of interest or discount not exceeding 7 p.c., but that no higher rate should be recoverable. Monthly returns of assets and liabilities were required. Certain technical amendments were made to the Bank Act in 1872, 1873 and 1875. In 1879 the power to lend upon the security of shares of other banks was repealed.

At the first general revision of the Bank Act in 1880 (effective 1881) a note holder was definitely recognized as a preferred creditor, claims of the Dominion and Provincial Governments respectively to rank next in order of preference. Banks were prohibited from issuing notes under $5, higher denominations to be multiples of this sum. Dominion notes were now to constitute not less than 40 p.c. of the bank's cash reserves. Monthly returns of a more detailed character were to be made. The Act was amended in 1883 so as more effectively to enforce the prohibitions, restrictions and duties already imposed upon the banks. The use of certain titles by private bankers not operating under the provisions of the Act was prohibited.

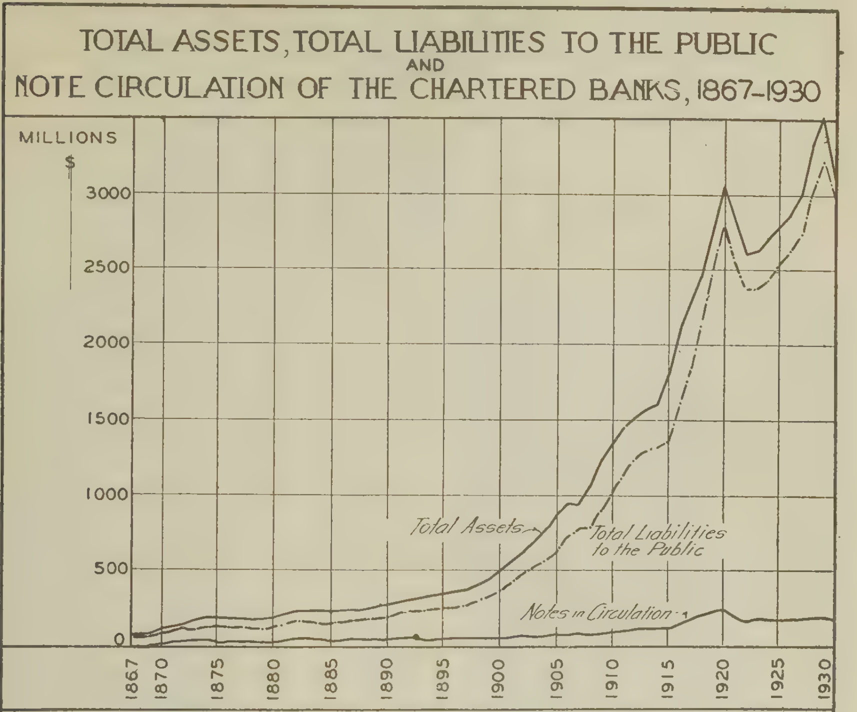
At the revision of 1890 (effective 1891) it was stipulated that not less than $250,000 capital must be paid up before a certificate permitting a bank to commence business could be issued by the Treasury Board. A period of one year from the date of the charter was allowed for the payment of the capital and the carrying out of other preliminaries. Dividends were not to exceed 8 p.c. until or unless the reserve fund was the equivalent of 30 p.c. of the paid-up capital. A fund known as the "Bank Note Circulation Redemption Fund" was established, consisting of deposits made by the banks with the Minister of Finance of amounts equal to 5 p.c. of their average note circulation, such deposits to be subject to adjustment annually, and to constitute a guarantee of the payment of all notes of a suspended bank with interest at 6 p.c. from the date of suspension until the date when their redemption was undertaken by the liquidator. Failing action by the liquidator within two months, the Minister of Finance was authorized to redeem the notes out of the fund, and such outlay, if not made good out of the assets of the failed bank, was to be reimbursed by the contributing banks *pro rata* to their contributions. Another major change gave the banks, in certain classes of loans, the same legal power to take security over the borrower's goods as had previously been granted by warehouse receipts. This enactment served to make general and more clear principles already recognized by previous legislation and practice. Directors' qualifications were set out more clearly and it was now provided that a majority only of directors, instead of all, need be British subjects. Penalties for the excessive issue of circulation were made more severe.

The revision of 1900 (effective 1901) recognized the Canadian Bankers' Association as an agency in the supervision and control of certain activities of the banks. It was charged, under the Treasury Board, with the responsibility of supervising the printing and distribution of notes to the banks and their issue and destruction; also with control over clearing houses and the appointment of curators to supervise the affairs of suspended banks. The amended Act also included provisions permitting one bank to sell its assets to another. More detailed monthly returns were required and the interest on notes of failed banks was reduced from 6 p.c. to 5 p.c. In 1908, after the financial crisis of 1907, provision was made for emergency circulation during the crop moving season from October to January, when banks were allowed to issue excess circulation up to 15 p.c. of their combined paid-up capital and rest or reserve funds, this emergency circulation to be taxed at a rate not exceeding 5 p.c. per annum. In 1912, the period was extended to the six months from September to February inclusive.

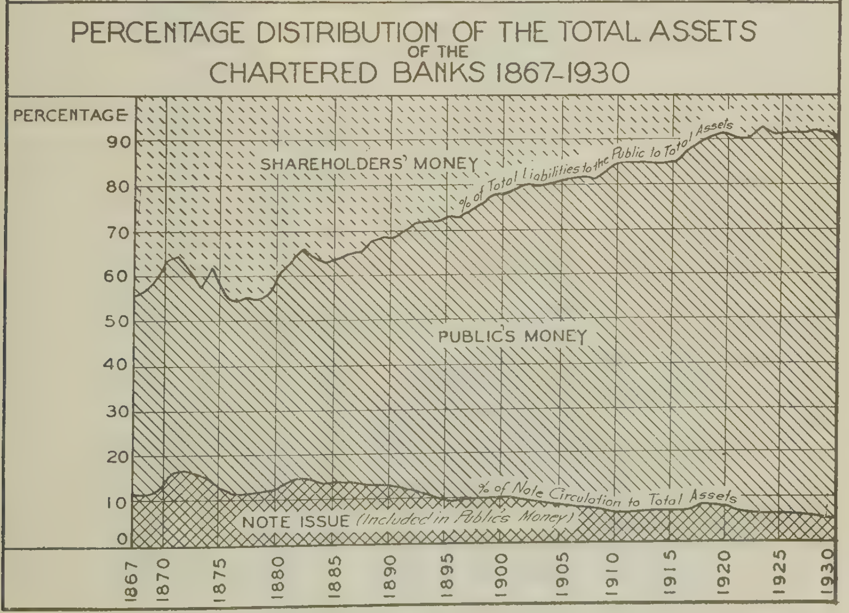
At the fourth revision of the Bank Act in 1913 provision was made for an audit of each bank's affairs by auditors appointed by the shareholders. There was also provision for the establishment of Central Gold Reserves in which banks might deposit gold or Dominion notes for the purpose of issuing additional notes of their own there-against. Annual reports to the Minister of the fair market value of real and immovable property held by the banks for their own use were required. Banks were empowered to lend to farmers upon the security of their threshed grain. As a war measure the provision for emergency circulation was extended in 1914 to cover the whole year and banks were further authorized to make payments in their own notes instead of in gold or Dominion notes.

The fifth revision of 1923 (13-14 Geo. V, c. 32) resulted in numerous important changes. The qualifications of provisional directors were re-defined, while provision was made for keeping records of attendance at directors' meetings and bringing them to the notice of shareholders. Annual and monthly statements were given further attention and more complete returns required, including statements of controlled companies in the names of which any part of a bank's operations was carried on. Other or special returns were to be made if called for by the Minister. Two auditors were now to be appointed by the shareholders instead of one, and the qualifications, duties and responsibilities of auditors were more clearly defined. The personal liability of directors in case of distribution of profits in excess of legal limits was also more definitely expressed. Regulations regarding loans were amended and advances to any officer or clerk of a bank could not, in any circumstances, be granted in excess of $10,000. Registration of security for loans under sec. 88 was provided for. It became necessary for guarantee and pension funds to be invested in trustee securities. The punishment of directors and other bank officials for making false statements of a bank's position was provided for in sec. 153. In 1924, as a result of the failure of the Home Bank of Canada, provision was made for periodical examination of the chartered banks by an Inspector-General of Banks, who was to be an officer of the Department of Finance.

Banking Statistics.—In Table **10** is given a historical summary of Canadian banking business since Confederation. In order to afford a clear view of the nature of banking transactions in Canada, bank liabilities have been classified in two main groups, liabilities to shareholders and liabilities to the public, the latter group only being considered when determining the ordinary financial position of any such institution. Assets are divided into four groups, other assets being included in the total. As of interest to students of banking practice, the relative rates of increase of capital and reserve funds may be noted on the accompanying graphs, also the great increase in the proportion of liabilities to the public to total liabilities, and the gradually increasing percentage of liabilities to the public to total assets. The declining proportion of notes in circulation to total liabilities to the public is also characteristic of the evolution of banking in recent times. Holdings of Dominion and Provincial Government and of municipal securities were relatively insignificant prior to the Great War.



TOTAL ASSETS, TOTAL LIABILITIES TO THE PUBLIC AND NOTE CIRCULATION OF THE CHARTERED BANKS, 1867-1930



PERCENTAGE DISTRIBUTION OF THE TOTAL ASSETS OF THE CHARTERED BANKS 1867-1930

10.—Historical Summary Showing Development of the Canadian Banking Business, calendar years 1867-1930.

NOTE.—The statistics in this table are yearly averages computed from the twelve monthly returns.

LIABILITIES.

Calendar Year.	Liabilities to Shareholders.		Liabilities to the Public.				
	Capital Paid up.	Rest or Reserve Fund.	Notes in Circulation.	Deposits payable on Demand in Canada.	Deposits payable after Notice or on a fixed day in Canada.	Total on Deposit.[1]	Total Liabilities to the Public.[3]
	$	$	$	$	$	$	$
1867[4].....	30,926,470	–	9,346,081	–	–	31,375,316	43,273,969
1868......	30,507,447	–	9,350,646	–	–	33,653,594	45,144,854
1869......	30,782,637	–	9,539,511	–	–	40,028,090	50,940,226
1870......	33,031,249	–	15,149,031	–	–	48,763,205	65,685,870
1871......	37,095,340	–	20,914,637	–	–	56,287,391	80,250,974
1872......	45,190,085	–	25,296,454	–	–	61,481,452	90,864,688
1873......	54,690,561	–	27,165,878	–	–	65,426,042	98,982,668
1874......	60,388,340	–	27,904,963	–	–	77,113,754	116,412,392
1875......	64,619,513	–	23,035,039	–	–	74,642,446	104,609,356
1876......	66,804,398	–	21,245,935	–	–	72,852,686	99,614,014
1877......	65,206,009	–	20,704,338	–	–	74,166,287	99,810,731
1878......	63,682,863	–	20,475,586	–	–	70,856,253	95,538,831
1879......	62,737,276	–	19,486,103	–	–	73,151,425	96,760,113
1880......	60,052,117	–	22,529,623	–	–	85,303,814	111,838,941
1881......	59,534,977	–	28,516,692	–	–	94,346,481	127,176,249
1882......	59,799,644	–	33,582,080	–	–	110,133,124	149,777,214
1883......	61,390,118	–	33,283,302	–	–	107,648,383	145,938,095
1884......	61,579,021	18,149,193	30,449,410	–	–	102,398,228	137,493,917
1885......	61,711,566	17,879,716	30,720,762	–	–	104,014,660	138,762,695
1886......	61,662,093	17,817,693	31,030,499	–	–	111,449,365	146,954,260
1887......	60,860,561	17,873,582	32,478,118	–	–	112,656,985	149,704,402
1888......	60,345,035	18,529,911	32,205,259	–	–	125,136,473	163,990,797
1889......	60,229,752	19,766,426	32,207,144	–	–	134,650,732	173,029,602
1890......	59,974,902	21,127,838	32,834,511	–	–	135,548,704	173,207,587
1891......	60,700,697	22,821,501	33,061,042	–	–	148,396,968	187,332,325
1892......	61,626,311	24,511,709	33,788,679	–	–	166,668,471	208,062,169
1893......	62,009,346	25,837,753	33,811,925	–	–	174,776,722	217,195,975
1894......	62,063,371	27,041,235	31,166,003	–	–	181,743,890	221,066,724
1895......	61,800,700	27,273,500	30,807,041	–	–	190,916,939	229,794,322
1896......	62,043,173	26,526,632	31,456,297	–	–	193,616,049	232,338,086
1897......	62,027,703	27,087,782	34,350,118	–	–	211,788,096	252,660,708
1898......	62,571,920	27,627,520	37,873,934	–	–	236,161,062	281,076,656
1899......	63,726,399	28,958,989	41,513,139	–	–	266,504,528	318,624,033
1900......	65,154,594	32,372,394	46,574,780	–	–	305,140,242	356,394,095
1901......	67,035,615	36,249,145	50,601,205	95,169,631	221,624,664	349,573,327[2]	420,003,743
1902......	69,869,670	40,212,943	55,412,598	104,424,203	244,062,545	390,370,493[2]	466,963,829
1903......	76,453,125	47,761,536	60,244,072	112,461,757	269,911,501	424,167,140[2]	507,527,550
1904......	79,234,191	52,082,335	61,769,888	117,962,023	307,007,192	470,265,744[2]	554,014,076
1905......	82,655,828	56,474,124	64,025,643	138,116,550	338,411,275	531,243,476[2]	618,678,633
1906......	91,035,604	64,002,266	70,638,870	165,144,569	381,778,705	605,968,513[2]	713,790,553
1907......	95,953,732	69,806,892	75,784,482	166,342,144	413,014,657	654,839,711[2]	769,026,924
1908......	96,147,526	72,041,265	71,401,697	169,721,755	406,103,063	658,367,015[2]	762,077,184
1909......	97,329,333	75,887,695	73,943,119	225,414,828	464,635,263	783,298,880[2]	882,598,547
1910......	98,787,929	79,970,346	82,120,303	260,232,399	532,087,627	909,964,839[2]	1,019,177,601
1911......	103,009,256	88,892,256	89,982,223	304,801,755	568,976,209	980,433,788[2]	1,097,661,393
1912......	112,730,943	102,090,476	100,146,541	359,431,895	625,705,765	1,102,910,383[2]	1,240,124,354
1913......	116,297,729	109,129,393	105,265,336	367,214,143	626,199,470	1,126,871,523[2]	1,287,372,534
1914......	114,759,807	113,130,626	104,600,185	346,069,908	656,760,687	1,144,211,363[2]	1,309,944,006
1915......	113,982,741	113,020,310	105,137,092	358,444,252	690,904,274	1,198,340,315[2]	1,353,629,123
1916......	113,175,353	112,989,541	126,691,913	428,717,781	780,842,383	1,418,035,429[2]	1,596,905,337
1917......	111,637,755	113,560,997	161,029,606	468,049,790	928,271,838	1,643,203,020[2]	1,866,228,236
1918......	110,618,504	114,041,500	198,645,254	587,342,904	966,341,499	1,912,395,780[2]	2,184,359,820
1919......	115,004,960	121,160,774	218,919,261	621,676,065	1,125,202,403	2,189,428,885[2]	2,495,582,568
1920......	123,617,120	128,756,690	228,800,379	653,862,869	1,239,308,076	2,438,079,792[2]	2,784,068,698
1921......	129,096,339	134,104,030	194,621,710	551,914,643	1,289,347,063	2,264,586,736[2]	2,556,454,190
1922......	125,456,485	129,627,270	166,466,109	302,781,234	1,191,637,004	2,120,997,030[2]	2,364,822,657
1923......	124,373,293	126,441,667	170,420,792	523,170,930	1,197,277,065	2,107,606,111[2]	2,374,308,376
1924......	122,409,504	123,841,606	166,136,765	511,218,736	1,198,246,414	2,130,621,760[2]	2,438,771,001
1925......	118,831,327	123,108,366	165,235,168	531,180,578	1,269,542,584	2,221,160,611[2]	2,532,832,064
1926	116,638,254	125,441,700	168,885,995	553,322,935	1,340,559,021	2,277,192,043[2]	2,604,601,786
1927......	121,666,774	130,320,897	172,100,763	596,069,007	1,399,062,201	2,415,132,260[2]	2,758,324,713
1928.....	122,839,879	134,087,485	176,716,979	677,467,295	1,496,608,451	2,610,594,865[2]	3,044,742,165
1929	137,269,085	150,636,682	178,291,030	696,387,381	1,479,870,058	2,696,747,857[2]	3,215,503,098
1930	144,560,874	160,639,246	159,341,085	622,895,347	1,427,569,716	2,516,611,587[2]	2,909,530,263

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[1] Includes the deposits of Dominion and Provincial Governments.
[2] Includes amounts deposited elsewhere than in Canada, not included in deposits prior to 1901.
[3] Includes other liabilities to the public. [4] Six months' average.

10.—Historical Summary Showing Development of the Canadian Banking Business, calendar years 1867-1930—concluded.

NOTE.—The statistics in this table are yearly averages computed from the twelve monthly returns.

ASSETS.

Calendar Year.	Specie and Dominion Notes (including Deposits in Central Gold Reserves 1913-1930).	Dominion and Provincial Government Securities.	Municipal Securities in Canada and Public Securities elsewhere than in Canada.	Total Loans.	Total Assets.[1]	Percentage of Liabilities to the Public to Total Assets.[1]
	$	$	$	$	$	p.c.
1867[2]	–	–	–	53,889,703	78,294,670	55·27
1868	–	–	–	52,299,050	79,860,976	56·53
1869	–	–	–	56,433,953	86,283,693	59·04
1870	–	–	–	66,276,961	103,197,103	63·65
1871	–	–	–	84,799,841	125,273,631	64·06
1872	–	–	–	106,744,665	148,862,445	61·04
1873	–	–	–	119,274,317	166,056,595	56·60
1874	–	–	–	131,680,111	187,921,031	61·95
1875	–	–	–	136,029,307	186,255,330	56·17
1876	–	–	–	127,621,577	183,499,801	54·29
1877	–	–	–	125,681,658	181,019,194	55·14
1878	–	–	–	119,682,659	175,450,274	54·45
1879	–	–	–	113,485,108	173,548,490	55·75
1880	–	–	–	102,166,115	184,276,190	60·69
1881	–	–	–	116,953,497	200,613,879	63·39
1882	–	–	–	140,077,194	227,426,835	65·86
1883	–	–	–	143,944,957	228,084,650	63·98
1884	–	–	–	130,490,053	219,998,642	62·50
1885	–	–	–	126,827,792	219,147,080	63·32
1886	–	–	–	132,833,313	228,061,872	64·44
1887	–	–	–	139,753,755	230,393,072	64·98
1888	–	–	–	141,002,373	243,504,164	67·35
1889	–	–	–	149,958,980	253,789,803	68·18
1890	–	–	–	153,301,335	254,546,329	68·05
1891	–	–	–	171,082,677	269,307,032	69·56
1892	17,794,201	–	–	193,455,883	291,635,251	71·34
1893	19,714,648	–	–	206,623,042	302,696,715	71·75
1894	22,371,954	–	–	204,124,939	307,520,020	71·87
1895	22,992,872	–	–	203,730,800	316,536,510	72·50
1896	22,318,627	–	–	213,211,996	320,937,643	72·39
1897	24,178,151	–	–	212,014,635	341,163,505	74·06
1898	25,330,564	–	–	223,806,320	370,583,991	75·86
1899	26,682,971	–	–	251,467,076	412,504,768	77·24
1900	29,047,382	–	–	279,279,761	459,715,065	77·52
1901	32,088,501	11,331,385	13,031,176	388,299,888	531,829,324	78·97
1902	35,478,598	9,804,998	14,487,632	430,662,670	585,761,109	79·72
1903	42,510,574	11,186,607	14,896,472	472,019,689	641,543,226	79·11
1904	50,307,871	10,705,202	15,560,145	509,011,993	695,417,756	79·67
1905	56,590,323	8,833,626	18,820,985	559,814,918	767,490,183	80·61
1906	61,287,581	9,360,614	20,460,670	655,869,879	878,512,076	81·25
1907	70,550,520	9,546,927	21,198,817	709,975,274	945,685,708	81·32
1908	80,654,276	9,522,743	19,788,937	670,170,833	941,290,619	80·96
1909	95,558,461	11,653,798	21,707,363	762,195,546	1,067,007,534	82·72
1910	104,735,626	14,741,621	21,696,987	870,100,890	1,211,452,351	84·13
1911	120,146,690	10,637,580	22,848,170	926,909,616	1,303,131,260	84·23
1912	132,853,405	9,388,968	22,586,119	1,061,843,991	1,470,065,478	84·36
1913	141,872,884	9,995,237	23,183,162	1,111,993,263	1,530,093,671	84·14
1914	165,845,957	11,697,603	22,707,738	1,101,880,924	1,555,676,395	84·20
1915	208,438,854	12,814,898	31,553,091	1,066,252,854	1,596,424,643	84·75
1916	230,113,831	29,717,007	117,902,686	1,135,866,531	1,839,286,709	86·82
1917	265,389,567	131,078,854	138,341,125	1,219,161,252	2,111,559,555	88·38
1918	351,762,841	162,821,026	252,936,568	1,339,660,669	2,432,331,418	89·81
1919	370,775,723	214,621,625	256,270,715	1,552,971,202	2,754,568,118	90·60
1920	367,165,054	120,356,255	210,826,991	1,935,449,637	3,064,133,843	90·86
1921	335,081,032	166,688,146	156,552,503	1,781,184,115	2,841,782,079	89·96
1922	305,522,425	198,826,031	90,131,491	1,643,643,443	2,638,776,483	89·62
1923	291,999,879	242,292,315	112,642,627	1,606,932,483	2,643,773,986	92·16
1924	266,961,330	314,099,097	135,597,860	1,546,792,080	2,701,427,011	90·28
1925	259,714,043	358,344,887	147,563,292	1,562,017,009	2,789,619,061	90·80
1926	252,754,268	343,595,936	127,765,375	1,682,379,658	2,864,019,213	90·94
1927	252,188,447	324,580,796	133,314,843	1,839,905,275	3,029,680,616	91·04
1928	264,804,251	333,837,004	124,996,823	2,072,403,628	3,323,163,195	91·62
1929	261,625,173	341,744,572	104,309,024	2,279,247,504	3,528,468,027	91·13
1930	232,016,616	316,196,343	101,585,131	2,064,597,746	3,237,073,853	89·88

[1] Includes other assets. [2] Six months' average.

Bank Assets and Liabilities.—Tables **11** and **12** show in detail the assets and liabilities of Canadian chartered banks for the four years 1927 to 1930, the figures being yearly averages of the totals shown in the monthly statements made to the Minister of Finance.

11.—Assets of Chartered Banks in the calendar years 1927-1930.

NOTE.—The statistics in this table are averages computed from the twelve monthly returns in each year.

Assets.	1927.	1928.	1929.	1930.
	$	$	$	$
Quick Assets—				
Current gold and subsidiary coin	72,825,694	71,423,881	71,783,435	72,665,124
Dominion notes	114,850,338	123,635,143	130,227,539	119,220,626
Deposit with Minister of Finance for security of note circulation	5,861,646	6,027,466	6,246,861	6,590,934
Deposit in central gold reserves	64,512,415	69,745,227	59,614,199	40,130,866
Notes of other banks	15,846,532	16,507,928	16,807,334	15,162,266
United States and other foreign currencies	22,757,460	21,228,912	19,468,671	18,775,238
Cheques of other banks	126,422,960	148,157,905	149,545,199	127,661,545
Deposits made with and balances due from other banks in Canada	5,193,750	4,465,411	4,698,323	5,696,508
Due from banks and banking correspondents in the United Kingdom	9,790,411	6,874,338	4,826,444	6,835,485
Due from banks and banking correspondents elsewhere than in Canada and the United Kingdom	61,793,595	67,531,596	86,178,585	94,240,248
Totals, Quick Assets	**499,854,801**	**535,597,807**	**549,396,590**	**506,978,840**
Other Liquid Assets—				
Dominion Government and Provincial Government securities	324,580,796	333,837,004	341,744,572	316,196,343
Canadian municipal securities, and British, foreign and colonial public securities other than Canadian	133,314,843	124,996,823	104,309,024	101,585,131
Railway and other bonds, debentures and stocks	63,075,762	63,794,381	52,961,542	53,856,068
Call and short (not exceeding thirty days) loans in Canada on stocks, debentures and bonds	185,652,795	253,488,198	267,271,438	226,725,099
Call and short (not exceeding thirty days) loans elsewhere than in Canada	268,536,339	267,352,621	301,091,053	187,706,019
Totals, Other Liquid Assets	**975,160,535**	**1,043,469,027**	**1,067,377,629**	**886,068,660**
Other Assets—				
Other current loans and discounts in Canada	1,024,272,671	1,177,484,482	1,342,666,883	1,285,836,995
Other current loans and discounts elsewhere than in Canada	269,337,398	261,943,962	248,367,887	238,954,152
Loans to the Government of Canada	–	–	–	–
Loans to Provincial Governments	15,801,827	29,569,721	19,002,655	17,491,292
Loans to cities, towns, municipalities and school districts	67,603,817	75,072,168	93,325,211	100,233,545
Overdue debts	8,700,427	7,492,476	7,522,377	7,650,644
Real estate, other than bank premises	7,705,627	6,736,392	5,618,820	5,472,741
Mortgages on real estate sold by the bank	6,257,770	6,735,847	7,221,774	7,023,730
Bank premises at not more than cost, less amounts (if any) written off	70,499,930	71,573,462	75,536,822	77,465,028
Liabilities of customers under letters of credit as *per contra*	75,083,687	97,624,647	100,473,805	90,355,973
Other assets not included under the foregoing heads	9,402,126	9,863,204	11,957,574	13,542,253
Totals, Other Assets	**1,554,665,880**	**1,744,096,361**	**1,911,693,808**	**1,844,026,353**
Grand Totals, Assets	**3,029,680,616**	**3,323,163,195**	**3,528,468,027**	**3,237,073,853**

12.—Liabilities of Chartered Banks in the calendar years 1927-1930.

NOTE.—The statistics in this table are averages computed from the twelve monthly returns in each year.

Liabilities.	1927.	1928.	1929.	1930.
Liabilities to the Public—				
Notes in circulation	172,100,763	176,716,979	178,291,030	159,341,085
Balance due to Dominion Government after deducting advances for credits, pay lists, etc.	45,418,748	42,219,976	77,815,312	47,706,626
Advances under the Finance Act	19,204,167	51,528,333	82,916,667	37,308,333
Balances due to Provincial Governments	25,573,744	21,846,611	24,536,732	28,036,339
Deposits by the public payable on demand in Canada	596,069,007	677,467,295	696,387,381	622,895,347
Deposits by the public payable after notice or on a fixed day in Canada	1,399,062,201	1,496,608,451	1,479,870,058	1,427,569,716
Deposits elsewhere than in Canada	349,008,560	372,452,532	418,138,374	390,403,559
Deposits made by and balances due to other banks in Canada	12,487,069	15,496,756	14,528,474	14,831,131
Due to banks and banking correspondents in the United Kingdom	6,723,874	13,449,698	25,693,879	11,539,556
Due to banks and banking correspondents elsewhere than in Canada and the United Kingdom	44,760,541	63,038,671	100,254,711	64,076,035
Bills payable	8,720,888	12,048,303	10,842,329	9,187,617
Acceptances under letters of credit	75,083,687	97,624,647	100,473,804	90,355,973
Liabilities not included under foregoing heads	4,111,464	4,243,913	5,754,347	6,278,946
Totals, Liabilities to the Public	**2,758,324,713**	**3,044,742,165**	**3,215,503,098**	**2,909 530,263**
Liabilities to Shareholders—				
Capital paid up	121,666,774	122,839,879	137,269,085	144,560,874
Amount of rest or reserve fund	130,320,897	134,087,485	150,636,682	160,639,246
Totals, Liabilities to Shareholders	**251,987,671**	**256,927,364**	**287,905,767**	**305,200,120**
Grand Totals, Liabilities	**3,010,312,384**	**3,301,669,529**	**3,503,408,865**	**3,214,730,383**

Deposits, Loans and Discounts.—As an index of the course of banking business, of the nature of many transactions undertaken and of the general security of bank assets, loans and discounts are of great value. They illustrate clearly the channels into which a large proportion of the potential earning power of the banks is directed, and, by providing a comparison between investments made in lending operations inside and outside of Canada, afford essential information regarding the conduct by a bank of one of its most important activities.

Bank deposits (the demand deposits being to a large extent the product of lending operations, by which credit is advanced on security followed by the deposit of the proceeds of a loan) are also of considerable importance, and, on account of their derivation, are one of the most valuable records of the volume of business done at any time. Actual deposits of cash (mainly deposits payable after notice or on a fixed day) are, of course, included with the amounts deposited after the granting of loans.

Tables **13** and **14**, following, give the deposits and loans of Canadian chartered banks for the years 1926 to 1930.

13.—Deposits in Chartered Banks in Canada and elsewhere, for the calendar years 1926-1930.

NOTE.—The statistics in this table are averages computed from monthly returns in each year.

Item.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$
Deposits by the public in Canada—					
Payable on demand	553,322,935	596,069,007	677,467,295	696,387,381	622,895,347
Payable after notice or on a fixed day	1,340,559,021	1,399,062,201	1,496,608,451	1,479,870,058	1,427,569,716
Deposits elsewhere than in Canada	330,399,153	349,008,560	372,452,532	418,138,374	390,403,559
Balances due to Dominion and Provincial Governments	52,910,934	70,992,492	64,066,587	102,352,044	75,742,965
Totals, Deposits	**2,277,192,043**	**2,415,132,260**	**2,610,594,865**	**2,696,747,857**	**2,516,611,587**

14.—Loans of Chartered Banks in Canada and elsewhere, for the calendar years 1926-1930.

NOTE.—The statistics in this table are averages computed from monthly returns in each year.

Item.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$
Call and short loans on stocks and bonds in Canada	140,230,899	185,652,795	253,488,198	267,271,438	226,725,099
Call and short loans elsewhere than in Canada	250,080,998	268,536,339	267,352,621	301,091,053	187,706,019
Current loans in Canada[1]	1,003,030,550	1,091,876,489	1,252,556,650	1,435,992,094	1,386,070,540
Current loans elsewhere than in Canada	261,415,615	269,337,398	261,943,962	248,367,887	238,954,152
Loans to Governments	18,084,219	15,801,827	29,569,721	19,002,655	17,491,292
Overdue debts	9,537,377	8,700,427	7,492,476	7,522,377	7,650,644
Totals, Loans	**1,682,379,658**	**1,839,905,275**	**2,072,403,628**	**2,279,247,504**	**2,064,597,746**

[1] Includes loans to cities, towns, municipalities and school districts.

Bank Reserves.—The Bank Act contains no specific provisions as to the amount of gold to be held against either note circulation or general liabilities of a bank. It requires, however, that 40 p.c. of whatever cash reserves a bank finds it expedient to carry shall be in Dominion notes. A second provision instructs the Minister of Finance to arrange for the delivery of Dominion notes to any bank in exchange for specie. Thus the gold reserve against Dominion notes, to the extent that the notes are held by the banks, is reserve against banking operations, the Dominion Government being the custodian of the gold for the banks. The other cash element in bank reserves is specie in hand. In addition to this cash on hand, Canadian banks carry three other kinds of assets which are regarded as reserves, being funds more or less immediately available for the liquidation of liabilities. These are:—(1) cash balances in banks outside of Canada; (2) call and short loans in New York (the favorite call loan market); and (3) readily marketable securities. These are shown, together with net liabilities, in Table **15.** In Table **16,** the ratio to net liabilities of each element of the reserve is shown.

15.—Bank Reserves, with Liabilities, calendar years 1901-1930—continued on p. 904.

NOTE.—The statistics in this table are averages computed from monthly returns in each year. Figures for 1892-1900 were given on p. 872 of the 1927-28 Year Book.

Year.	Specie, Dominion Notes and Foreign Currencies.[1]	Cash Due from—			Call and Short Loans elsewhere than in Canada.
		Banks in the United Kingdom.	Banks elsewhere than in Canada and the United Kingdom.	All Outside Banks.	
	$	$	$	$	$
1901	32,088,501	5,598,939	12,811,524	18,410,463	40,620,238
1902	35,478,598	6,598,159	13,519,799	20,117,958	46,162,659
1903	42,510,574	5,638,954	14,192,232	19,831,186	38,025,662
1904	50,307,871	7,523,615	16,817,357	24,340,972	41,212,007
1905	56,590,323	9,960,560	19,201,939	29,162,499	51,452,955
1906	61,287,581	8,877,979	16,801,119	25,679,098	59,363,639
1907	70,550,520	6,027,157	15,363,728	21,390,885	52,907,513
1908	80,654,276	9,828,186	30,822,761	40,650,947	60,764,075
1909	95,558,461	10,311,864	31,779,144	42,091,008	119,728,263
1910	104,735,696	18,892,833	28,301,602	47,194,435	112,777,530
1911	120,146,690	21,122,092	29,695,985	50,818,077	91,097,704
1912	132,853,405	21,338,926	28,894,103	50,233,029	105,718,070
1913	135,267,623	13,329,642	28,238,329	41,567,971	98,608,615
1914	159,775,124	12,230,533	36,932,958	49,163,491	112,438,696
1915	200,113,021	20,824,559	43,781,939	64,606,498	118,896,692
1916	207,797,164	24,025,192	72,923,228	96,948,420	164,786,760
1917	210,475,400	17,885,648	53,021,952	70,907,600	157,430,643
1918	256,656,174	10,973,606	47,419,961	58,393,567	162,233,308
1919	257,429,889	12,359,426	50,904,693	63,264,119	163,227,204
1920	259,462,332	17,669,923	62,100,182	79,770,105	200,098,050
1921	255,474,332	12,857,830	60,885,266	73,743,096	172,137,325
1922	251,169,892	10,309,844	87,972,048	98,281,892	178,457,564
1923	234,501,513	8,090,470	54,358,289	62,448,759	198,047,516
1924	235,743,196	7,819,605	66,701,920	74,521,525	181,705,220
1925	230,011,447	8,583,316	59,921,935	68,505,251	225,461,687
1926	214,182,302	11,520,189	59,261,609	70,781,798	250,080,998
1927	210,433,492	9,790,411	61,793,595	71,584,006	268,536,339
1928	216,287,938	6,874,338	67,531,596	74,405,934	267,352,621
1929	221,479,645	4,826,444	86,178,585	91,005,029	301,091,053
1930	210,660,988	6,835,485	94,240,248	101,075,733	187,706,019

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[1] Does not include "Deposit with the Minister of Finance for security of the note circulation" of insolvent banks, nor "Deposit in the central gold reserves," instituted in 1913 as a reserve against additional bank note circulation. The average amounts of these deposits during each of the last four years are shown in Table 11 of this chapter.

15.—Bank Reserves, with Liabilities, calendar years, 1901-1930—concluded.

NOTE.—The statistics in this table are averages computed from monthly returns in each year. Figures for 1892-1900 will be found at p. 873 of the 1927-28 Year Book.

Year.	Securities.				Total Reserves.[1]	Total Net Liabilities.[2]
	Dominion and Provincial Government Securities.	Canadian Municipal, British, Foreign and Colonial Public Securities.	Railway and other Bonds.	Total.		
	$	$	$	$	$	$
1901	11,331,385	13,031,176	30,440,258	54,802,819	145,322,021	405,915,468
1902	9,804,998	14,487,633	34,859,390	59,152,021	160,911,236	451,052,607
1903	11,186,607	14,896,472	37,800,893	63,883,972	164,251,394	489,439,303
1904	10,705,202	15,560 146	38,779,477	65,044,825	180,905,675	534,147,781
1905	8,833,627	18,820,985	39,974,520	67,629,132	204,834,909	595,027,264
1906	9,360,614	20,460,625	41,125,898	70,947,137	217,277,455	684,185,650
1907	9,546,760	21,198,817	41,239,589	71,985,166	216,834,084	737,505,039
1908	9,522,743	19,788,937	42,651,006	71,962,686	254,031,984	726,443,676
1909	11,653,798	21,707,363	50,783,614	84,144,775	341,522,507	844,098,072
1910	14,741,621	21,696,987	56,194,734	92,633,342	357,341,003	974,731,187
1911	10,637,580	22,848,170	60,909,240	94,394,990	356,457,461	1,044,712,367
1912	9,388,968	22,586,119	64,080,763	96,055,850	384,860,354	1,178,577,787
1913	9,995,237	23,183,161	70,713,075	103,891,473	379,329,682	1,222,752,292
1914	11,697,603	22,707,738	68,636,267	103,041,608	424,418,919	1,251,372,615
1915	12,814,898	31,553,091	74,020,538	118,388,527	502,004,738	1,298,018,989
1916	29,717,007	117,902,686	68,386,482	216,006,175	685,538,519	1,520,438,686
1917	131,078,854	183,341,125	58,958,908	373,378,837	812,192,530	1,771,264,882
1918	162,821,026	252,936,568	56,103,418	471,861,012	949,144,061	2,071,307,749
1919	214,621,625	256,270,715	54,429,301	525,321,641	1,009,242,583	2,363,044,215
1920	120,356,255	210,826,991	48,031,228	379,214,474	918,544,961	2,608,151,194
1921	166,688,146	156,552,503	45,728,878	368,969,527	870,324,280	2,393,459,361
1922	198,826,031	90,131,491	43,208,758	332,166,280	860,073,353	2,219,372,799
1923	242,292,315	112,642,627	46,857,264	401,792,206	896,789,994	2,222,479,569
1924	314,099,097	135,597,860	52,864,890	502,561,847	994,531,788	2,314,701,740
1925	358,344,887	147,563,292	59,597,468	565,505,647	1,089,484,032	2,396,104,380
1926	343,595,936	127,765,375	61,455,745	532,817,056	1,067,862,154	2,481,678,160
1927	324,580,796	133,314,843	63,075,762	520,971,402	1,071,525,239	2,616,056,053
1928	333,837,004	124,996,823	62,794,381	522,628,208	1,080,674,701	2,880,242,999
1929	341,744,572	104,309,024	52,961,542	499,015,138	1,112,590,865	3,062,844,009
1930	316,196,343	101,585,131	53,856,068	471,637,542	971,080,282	2,766,706,452

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[1] See footnote 1 on preceding page.

[2] Net liabilities are obtained by deducting from total liabilities to the public, as shown in Table **10**, the items "Notes of other banks," "Cheques on other banks", "Loans to other banks in Canada, secured, including bills rediscounted", which represent indebtedness within the system and are counterbalanced by credits within the system.

16.—Ratio of Bank Reserves to Net Liabilities,[1] calendar years, 1901-1930.

NOTE.—The statistics in this table are based upon the averages of the monthly returns in each year. Figures for 1892-1900 will be found at p. 874 of the 1927-28 Year Book.

Year.	Cash on hand.	Cash due from Banks outside of Canada.	Call and Short Loans elsewhere than in Canada.	Securities.	Total Reserves.
	p.c.	p.c.	p.c.	p.c.	p.c.
1901	8·0	4·5	10·0	13·5	36·0
1902	7·9	4·4	10·2	13·1	35·6
1903	8·9	4·0	7·7	13·0	33·6
1904	9·4	4·5	7·7	12·1	33·7
1905	9·5	4·9	8·6	11·3	34·3
1906	8·9	3·7	8·7	10·4	31·7
1907	9·5	2·9	7·2	9·7	29·3
1908	11·1	5·5	8·3	9·9	34·8
1909	11·3	5·0	14·2	9·9	40·4
1910	10·7	4·8	11·5	9·5	36·5
1911	11·5	4·8	8·7	9·0	34·0
1912	11·3	4·3	8·9	8·1	32·5
1913	11·1	3·4	8·1	8·5	31·1
1914	12·8	3·9	9·0	8·2	33·9
1915	15·4	5·0	9·2	9·1	38·7
1916	13·7	6·4	10·8	14·2	45·1
1917	11·9	4·0	8·9	21·1	45·9
1918	12·4	2·8	7·8	22·8	45·8
1919	10·9	2·7	6·9	22·2	42·7
1920	9·9	3·1	7·7	14·5	35·2
1921	10·7	3·1	7·2	15·4	36·4
1922	11·3	4·4	8·0	15·0	38·7
1923	10·6	2·8	8·9	18·1	40·4
1924	10·2	3·2	7·9	21·7	43·0
1925	9·6	2·9	9·4	23·6	45·5
1926	8·6	2·8	10·1	21·5	43·0
1927	8·0	2·7	10·3	19·9	40·9
1928	7·5	2·6	9·3	18·1	37·5
1929	7·2	2·9	9·8	16·3	36·3
1930	7·6	3·7	6·8	17·0	35·1

[1] See Table **15** for actual amounts of reserves.

Subsection 2.—The Individual Chartered Banks of Canada.[1]

During the period from 1881 to 1901, the number of chartered banks doing business in Canada under the Bank Act remained almost the same, 36 in 1881 and 1891, and 34 in 1901, but during the present century there has been in banking, as in industry, an era of amalgamations, the number of banks having dropped to 25 in 1913 and to 11 in December, 1930. That this has been far from involving a curtailment of banking facilities is seen in Table **10**, which shows the development of the banking business since 1867, and in Table **17**, which compares the number of branch banks existing in Canada at different periods, showing a growth from 123 at Confederation to 4,083 inclusive of sub-agencies at Dec. 31, 1930, besides 182 branches in other countries. Table **18** gives the number of branches of the various banks, by provinces, as at Dec. 31, 1930, while Table **19** contains the statistics of branches of Canadian banks doing business outside of Canada, an extension of Canadian banking (more especially to Newfoundland and the West Indies) which has proceeded very rapidly in recent years.

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[1] Revised by H. T. Ross, Secretary, Canadian Bankers' Association.

17.—Number of Branches of Chartered Banks in Canada, by Provinces, 1868, 1902, 1905, 1916, 1920, 1926-1930.

Province.	1868.	1902.	1905.	1916.[1]	1920.[1]	1926.[1]	1927.[1]	1928.[1]	1929.[1]	1930.[1]
P.E.I.	–	9	10	17	41	28	28	28	28	28
Nova Scotia	5	89	101	111	169	134	138	139	138	138
New Brunswick	4	35	49	82	121	101	103	102	102	102
Quebec	12	137	196	784	1,150	1,072	1,105	1,135	1,169	1,183
Ontario	100	349	549	1,154	1,586	1,326	1,357	1,383	1,396	1,409
Manitoba	–	52	95	200	349	224	227	231	239	239
Saskatchewan	–	–	–	413	591	427	436	455	462	447
Alberta	–	30	87	247	424	269	280	293	308	304
British Columbia	2	46	55	187	242	186	193	196	223	229
Yukon	–	–	3	3	3	3	3	4	4	4
Totals	**123**	**747**	**1,145**	**3,198**	**4,676**	**3,770**	**3,870**	**3,966**	**4,069**	**4,083**

[1] Includes sub-agencies for receiving deposits for the banks employing them.

18.—Number and Locations of Branches of Individual Canadian Chartered Banks in Canada and Other Countries as at Dec. 31, 1930.[1]

NOTE.—This table does not include sub-agencies which numbered 667 in 1930, including 3 in "Other Countries".

Bank.	P.E. Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.
Bank of Montreal	1	14	13	131	220	42
Bank of Nova Scotia	9	38	37	23	135	9
Bank of Toronto	–	–	–	16	108	15
Banque Provinciale du Canada	4	–	13	107	15	–
Canadian Bank of Commerce	7	19	6	73	317	49
Royal Bank of Canada	6	62	22	88	267	79
Dominion Bank	–	–	1	9	103	12
Banque Canadienne Nationale	–	–	–	229	18	10
Imperial Bank of Canada	–	–	–	4	124	10
Weyburn Security Bank	–	–	–	–	–	–
Barclays Bank (Canada)	–	–	–	1	1	–
Totals	**27**	**133**	**92**	**681**	**1,308**	**226**

Bank.	Saskatchewan.	Alberta.	British Columbia.	Yukon.	Other Countries.	Total.
Bank of Montreal	62	70	55	2	18	628
Bank of Nova Scotia	28	11	7	–	39	336
Bank of Toronto	39	15	10	–	–	203
Banque Provinciale du Canada	–	–	–	–	–	139
Canadian Bank of Commerce	102	75	70	2	14	734
Royal Bank of Canada	135	76	61	–	105	901
Dominion Bank	5	6	5	–	2	143
Banque Canadienne Nationale	8	7	–	–	1	273
Imperial Bank of Canada	30	26	15	–	–	209
Weyburn Security Bank	30	–	–	–	–	30
Barclays Bank (Canada)	–	–	–	–	–	2
Totals	**439**	**286**	**223**	**4**	**179**	**3,598**

19.—Number of Branches of each of the Canadian Chartered Banks in Other Countries, with their Locations, Dec. 31, 1930.

Bank and Location.	Branches.
The Bank of Montreal—	
Newfoundland	5
England	2
France	1
United States	3
Mexico	7
The Bank of Nova Scotia—	
Newfoundland	12
England	1
British West Indies	12
United States	3
Cuba	8
Porto Rico, etc	3
The Canadian Bank of Commerce—	
Newfoundland	2
England	1
British West Indies	3
United States	4
Cuba	1
Mexico	1
The Canadian Bank of Commerce—conc.	
South America	1
St. Pierre and Miquelon	1
The Royal Bank of Canada—	
Newfoundland	5
England	2
British West Indies	12
United States	1
Cuba	38
Porto Rico, etc	14
France (auxiliary)	1
Spain	1
Central and South America	31
The Dominion Bank—	
England	1
United States	1
Banque Canadienne Nationale—	
France	1
Total	**179**

Earnings of Canadian Banks.—The chartered banks of Canada are for the most part Dominion-wide institutions, doing business in all parts of the country. Their earnings, therefore, reflect with very considerable faithfulness the fluctuations of general business. So far as individual banks are concerned, indeed, the changes resulting from this era of amalgamations are apt to render the figures incomparable over a period of years. During the six years covered by Table **20,** however, the Bank of Nova Scotia, the Bank of Toronto, the Banque Provinciale du Canada, the Dominion Bank and the Imperial Bank have not been affected by the tendency toward absorptions, and the steady increase in the net profits of these banks is excellent evidence of the prosperity of the country. Further, the remarkable increase of the aggregate net profits of Canadian chartered banks from $19,589,531 in 1925 to $26,715,583 in 1930 is convincing evidence of the business activity of Canada. It is noteworthy that the net profits of the Bank of Montreal and the Royal Bank in 1930 were each nearly a quarter of the total for all the banks of Canada.

20.—Net Profits of Canadian Banks and Rates of Dividend Paid, for their business years ended 1925-1930.

Bank.	1925.		1926.		1927.	
	Net Profits.	Dividend Rate.	Net Profits.	Dividend Rate.	Net Profits.	Dividend Rate.
	$	p.c.	$	p.c.	$	p.c.
Bank of Montreal	4,604,962	12+2	4,978,133	12+2	5,299,887	12+2
Bank of Nova Scotia	2,137,920	16	2,243,243	16	2,365,320	16
Bank of Toronto	1,012,964	12	1,108,692	12	1,165,432	12+1
Molsons' Bank[1]	-	-	-	-	-	-
Banque Provinciale du Canada	407,259	9	454,123	9	508,608	9
Union Bank of Canada[2]	-	-	-	-	-	-
Canadian Bank of Commerce	3,487,213	12+1	3,636,983	12+1	3,726,910	12+1
Royal Bank of Canada	4,081,628	12+2	4,516,239	12+2	5,370,146	12+2
Dominion Bank	1,156,840	12+1	1,259,277	12+1	1,328,496	12+1
Standard Bank of Canada[3]	688,682	12	773,823	12	821,886	12
Banque Canadienne Nationale[4]	822,027	10	860,660	10	903,201	10
Imperial Bank of Canada	1,162,149	12+1	1,265,776	12+1	1,383,282	12+1
Sterling Bank of Canada[5]	-	-	-	-	-	-
Weyburn Security Bank	27,887	5	37,001	5	64,986	7
Totals, Net Profits	**19,589,531**	-	**21,133,950**	-	**22,938,154**	-

For footnotes see end of table, p. 908.

20.—Net Profits of Canadian Banks and Rates of Dividend Paid, for their business years ended 1925-1930—concluded.

Bank.	1928.		1929.		1930.	
	Net Profits.	Dividend Rate.	Net Profits.	Dividend Rate.	Net Profits.	Dividend Rate.
	$	p.c.	$	p.c.	$	p.c.
Bank of Montreal	5,847,327	12+2	7,070,892	12+2	6,519,031	12+2
Bank of Nova Scotia	2,535,519	16	2,761,117	16	2,535,643	16
Bank of Toronto	1,264,971	12+1	1,453,436	12+1	1,339,872	12+1
Molsons' Bank[1]	-	-	-	-	-	-
Banque Provinciale du Canada	534,248	9	551,022	9	511,457	9
Union Bank of Canada[2]	-	-	-	-	-	-
Canadian Bank of Commerce	3,964,482	12+1	5,066,229	12+1	5,378,423	12+1
Royal Bank of Canada	5,881,254	12+2	7,145,137	12+2	6,572,627	12+2
Dominion Bank	1,408,088	12+1	1,522,809	12+1	1,409,747	12+1
Standard Bank of Canada[3]	917,658	12	-	-	-	-
Banque Canadienne Nationale[4]	946,065	10	1,053,100	10	1,024,702	10
Imperial Bank of Canada	1,459,472	12+1	1,561,562	12+1	1,424,081	12+1
Sterling Bank of Canada[5]	-	-	-	-	-	-
Weyburn Security Bank	54,387	7	38,147	7	-	-
Barclays Bank (Canada)	-	-	-	-	-	-
Totals, Net Profits	**24,813,471**	-	**28,223,451**	-	**26,715,583**	-

[1] Absorbed by the Bank of Montreal in 1925. [2] Absorbed by the Royal Bank of Canada in 1925.

[3] Absorbed by the Canadian Bank of Commerce Nov. 3, 1928.

[4] Formerly Banque d'Hochelaga (absorbed the Banque Nationale April 30, 1924); name changed in 1925. [5] Absorbed by the Standard Bank of Canada Dec. 31, 1924.

In Tables **21** and **22** will be found statistics showing the positions of the individual chartered banks on Dec. 31, 1930.

21.—Principal and Total Assets of each of the Chartered Banks of Canada, Dec. 31, 1930.

Bank.	Current Gold and Subsidiary Coin.	Dominion Notes.	Deposit in Central Gold Reserves.	United States and other Foreign Currencies.	Due from other Banks
	$	$	$	$	$
Bank of Montreal	36,302,936	42,194,477	8,000,000	911,512	64,723,891
Bank of Nova Scotia	9,503,865	14,690,183	3,500,000	1,401,982	17,038,276
Bank of Toronto	436,004	8,098,559	2,380,866	95,860	10,600,927
Banque Provinciale du Canada	245,904	395,665	350,000	79,493	4,418,989
Canadian Bank of Commerce	10,182,264	23,241,188	8,000,000	1,218,508	40,062,907
Royal Bank of Canada	24,244,324	22,343,947	4,000,000	18,101,752	64,971,085
Dominion Bank	1,044,516	10,111,310	1,000,000	136,994	13,171,247
Banque Canadienne Nationale	1,052,026	1,679,115	4,000,000	127,327	7,160,448
Imperial Bank of Canada	989,357	4,070,644	1,350,000	132,263	11,349,893
Weyburn Security Bank	25,344	36,926	-	2,103	716,642
Barclays Bank (Canada)	12,069	26,714	-	3,359	2,456,592
Totals	**84,038,609**	**126,888,728**	**32,580,866**	**22,211,153**	**236,670,897**

Bank.	Securities.	Loans and Discounts.			Total Assets.[2]
		Call Loans in Canada.	Current Loans in Canada.[1]	Call and Current Loans outside of Canada.	
	$	$	$	$	$
Bank of Montreal	216,742,480	15,773,489	309,645,676	79,202,942	804,002,859
Bank of Nova Scotia	48,752,619	30,813,116	100,008,949	23,435,226	263,391,666
Bank of Toronto	24,610,725	8,483,702	62,432,267	-	122,796,771
Banque Provinciale du Canada	13,762,565	6,477,435	21,767,479	-	51,238,682
Canadian Bank of Commerce	98,780,994	45,204,875	260,014,740	83,210,110	620,188,632
Royal Bank of Canada	120,792,272	62,030,710	305,136,437	168,470,440	855,541,405
Dominion Bank	21,673,523	14,240,782	64,804,521	5,470,290	141,723,848
Banque Canadienne Nationale	33,016,866	10,609,577	77,984,995	81,170	144,122,127
Imperial Bank of Canada	25,292,659	10,904,409	70,684,492	-	132,901,984
Weyburn Security Bank	69,034	-	1,925,823	-	3,731,604
Barclays Bank (Canada)	615,146	243,250	632,894	-	4,116,435
Totals	**604,108,883**	**204,781,345**	**1,275,038,273**	**359,870,178**	**3,143,756,013**

[1] Includes loans to the Dominion Government, to Provincial Governments and to cities, towns, municipalities and school districts. [2] Includes other assets.

22.—Principal and Total Liabilities of each of the Chartered Banks of Canada, Dec. 31, 1930.

Bank.	Capital (paid up).	Rest or Reserve Fund.	Notes in Circulation.	Due to Dominion and to Provincial Governments.	Letters of Credit Outstanding.
	$	$	$	$	$
Bank of Montreal	36,000,000	38,000,000	37,095,680	17,802,596	8,002,254
Bank of Nova Scotia	12,000,000	24,000,000	13,967,346	3,587,173	5,455,771
Bank of Toronto	6,000,000	9,000,000	6,882,334	474,361	1,438,339
Banque Provinciale du Canada	4,000,000	1,500,000	4,107,520	204,046	28,456
Canadian Bank of Commerce	30,000,000	30,000,000	26,454,802	6,435,396	23,183,950
Royal Bank of Canada	35,000,000	35,000,000	33,414,649	11,906,776	35,393,058
Dominion Bank	7,000,000	9,000,000	6,577,213	2,051,737	3,415,169
Banque Canadienne Nationale	7,000,000	7,000,000	10,900,734	1,644,746	554,721
Imperial Bank of Canada	7,000,000	8,000,000	8,099,348	3,199,275	769,646
Weyburn Security Bank	524,560	225,000	315,155	196,856	–
Barclays Bank (Canada)	500,000	500,000	202,275	30,343	117,654
Totals	**145,024,560**	**162,225,000**	**148,017,056**	**47,533,305**	**78,359,018**

Bank.	Deposits.			Due to Other Banks.	Total Liabilities.[1]
	Demand in Canada.	Notice in Canada.	Outside of Canada.		
	$	$	$	$	$
Bank of Montreal	164,128,190	388,262,607	94,554,839	9,314,823	800,910,368
Bank of Nova Scotia	34,416,523	129,470,210	32,568,349	5,820,295	262,580,830
Bank of Toronto	28,439,101	65,294,375	–	4,070,684	121,980,719
Banque Provinciale du Canada	5,863,044	34,818,639	–	146,839	50,725,662
Canadian Bank of Commerce	139,522,155	290,191,715	49,977,248	21,382,441	618,344,613
Royal Bank of Canada	178,330,428	289,849,868	191,468,886	26,550,919	850,394,045
Dominion Bank	35,519,650	67,389,729	2,471,289	5,058,055	141,279,629
Banque Canadienne Nationale	25,120,587	88,209,041	1,235,098	488,420	143,658,699
Imperial Bank of Canada	28,882,357	70,080,314	–	3,567,204	131,598,848
Weyburn Security Bank	807,088	1,545,688	–	34,923	3,667,467
Barclays Bank (Canada)	665,194	732,980	–	1,419,176	4,184,828
Totals	**641,694,317**	**1,425,845,166**	**372,275,709**	**77,853,779**	**3,129,325,708**

[1] Includes other liabilities.

Bank Amalgamations and Insolvencies.—Two tables are appended which may be of interest to students of Canadian banking history. The first, showing bank insolvencies since 1867, gives the capital paid up, reserves, assets and liabilities of insolvent banks, and shows also the payments to noteholders and depositors. In the majority of cases, both these classes of creditors have received payment in full. The table of bank absorptions gives the dates of absorption of the 35 banks which were incorporated with other institutions between 1867 and 1930.

23.—Canadian Bank Insolvencies since 1867.

Name.	Date of Suspension.		Paid-up Capital.	Reserve Fund.	Liabilities.	Assets.	Paid to—	
							Noteholders.	Depositors.
			$	$	$	$	p.c.	p.c.
Commercial Bank of N.B.	–	1868	600,000	–	671,420	1,222,454	100	100
Bank of Acadia[1]	April,	1873	100,000	–	106,914	213,346	–	–
Metropolitan Bank	Oct.,	1876	800,170	–	293,379	779,225	100	100
Mechanics' Bank	May,	1879	194,794	–	547,238	721,155	57½	57½
Bank of Liverpool	Oct.,	1879	370,548	–	136,480	207,877	100	96 6/17
Consolidated Bank of Canada	Aug.,	1879	2,080,920	–	1,791,249	3,077,202	100	100
Stadacona Bank	July,	1879	991,890	–	341,500	1,355,675	100	100
Bank of Prince Ed. Island	Nov. 28,	1881	120,000	45,000	1,108,000	953,244	59½	59½

For footnote see end of table, p. 910.

23.—Canadian Bank Insolvencies since 1867—concluded.

Name.	Date of Suspension.	Paid-up Capital.	Reserve Fund.	Liabilities.	Assets.	Paid to—	
						Note-holders.	Depositors.
		$	$	$	$	p.c.	p.c.
Exchange Bank of Canada	Sept., 1883	500,000	300,000	2,868,884	2,779,493	100	66⅜
Maritime Bank of Dom. of Canada	Mar., 1887	321,900	60,000	1,409,482	1,825,993	100	10⅔
Pictou Bank	Sept., 1887	200,000	–	74,364	277,017	100	100
Bank of London in Canada	Aug., 1887	241,101	50,000	1,031,280	1,310,675	100	100
Central Bank of Canada	Nov., 1887	500,000	45,000	2,631,378	3,231,518	100	99⅔
Federal Bank	Jan., 1888	1,250,000	150,000	3,449,499	4,869,113	100	100
Commercial Bank of Manitoba	June 30, 1893	552,650	50,000	1,341,251	1,951,151	100	100
Banque du Peuple	July 15, 1895	1,200,000	600,000	7,761,209	9,533,537	100	75¼
Banque Ville-Marie	July 25, 1899	479,620	10,000	1,766,841	2,267,516	100	17½
Bank of Yarmouth	Mar. 6, 1905	300,000	35,000	388,660	723,660	100	100
Ontario Bank[3]	Oct. 13, 1906	1,500,000	700,000	15,272,271	15,920,307	100	100
Sovereign Bank of Canada[3]	Jan. 18, 1908	3,000,000	–	16,174,408	19,218,746	100	100
Banque de St. Jean	April 28, 1908	316,386	10,000	560,781	326,118	100	30⅕
Banque de St. Hyacinthe	Jan. 24, 1908	331,235	75,000	1,172,630	1,576,443	100	100
St. Stephen's Bank	Mar. 10, 1910	200,000	55,000	549,830	818,271	100	100
Farmers' Bank	Dec. 19, 1910	567,579	–	1,997,041	2,616,683	100	Nil
Bank of Vancouver	Dec. 14, 1914	445,188	–	912,137	1,532,786	100	[2]
Home Bank of Canada	Aug. 17, 1923	1,960,591	550,000	24,889,049	27,434,709	100	[2]

[1] This bank was only in existence for 3 months and 26 days. Some of its notes were redeemed on its re-opening for a few days. The Dominion Government received 25 cents on the dollar on several thousand dollars worth of the notes which it held. [2] Liquidation incomplete. [3] These banks never suspended payment. Their branches were taken over by other banks which assured all liabilities to depositors. Some years later, for technical purposes, these banks were put into insolvency.

24.—Bank Absorptions in Canada since 1867.[1]

Purchasing Bank.	Bank Absorbed.	Date.[2]
Bank of Montreal	Exchange Bank, Yarmouth, N.S	Aug. 13, 1903
	People's Bank of Halifax, N.S	June 27, 1905
	Ontario Bank	Oct. 13, 1906
	People's Bank of New Brunswick	April 15, 1907
	Bank of British North America	Oct. 12, 1918
	Merchants' Bank of Canada	Mar. 20, 1922
	Molsons' Bank	Jan. 20, 1925
Canadian Bank of Commerce	Gore Bank	May 19, 1870
	Bank of British Columbia	Dec. 31, 1900
	Halifax Banking Co	May 30, 1903
	Merchants' Bank of P.E.I	May 31, 1906
	Eastern Townships Bank	Feb. 29, 1912
	Bank of Hamilton	Dec. 31, 1923
	Standard Bank of Canada	Nov. 3, 1928
Bank of Nova Scotia	Union Bank of P.E.I	Oct. 1, 1883
	Bank of New Brunswick	Feb. 15, 1913
	The Metropolitan Bank	Nov. 14, 1914
	The Bank of Ottawa	April 30, 1919
Royal Bank of Canada	Union Bank of Halifax	Nov. 1, 1910
	Traders' Bank of Canada	Sept. 3, 1912
	Quebec Bank	Jan. 2, 1917
	Northern Crown Bank	July 2, 1918
	Union Bank of Canada	Aug. 31, 1925
Imperial Bank of Canada	Niagara District Bank	June 21, 1875
Banque d'Hochelaga[3]	Banque Nationale	April 30, 1924
Bank of New Brunswick	Summerside Bank	Sept. 12, 1901
Merchants' Bank of Canada	Merchants' Bank	Feb. 22, 1868
	Commercial Bank of Canada	June 1, 1868
Union Bank of Halifax	Commercial Bank of Windsor	Oct. 31, 1902
Northern Crown Bank	The Northern Bank	July 2, 1908
	Crown Bank of Canada	July 2, 1908
Union Bank of Canada	United Empire Bank	Mar. 31, 1911
Home Bank of Canada	La Banque Internationale du Canada	April 15, 1913
Standard Bank of Canada	Western Bank of Canada	Feb. 13, 1909
	Sterling Bank of Canada	Dec. 31, 1924

[1] The purchasing banks named in the latter part of the table are no longer in business.

[2] Dates given since 1900 are those of the Orders in Council authorizing the absorptions.

[3] The Banque d'Hochelaga after absorbing the Banque Nationale adopted the name Banque Canadienne Nationale.

Subsection 3.—The Volume of Business Transacted through the Banks.

In advanced industrial societies money is only "the small change of commerce". The great bulk of monetary transfers, particularly in the case of the larger transactions, is made through the banks. Thus it has been estimated that in the United States in 1917 about 6 p.c. of the business transactions of the country were financed by the use of money and the remaining 94 p.c. by the use of cheques. Accordingly, if we knew the aggregate amount of the cheques paid through the banks and charged to accounts, we should have an almost complete record of the volume of business transacted, and thus of the business activity of the country.

Statistics of this character were at first secured through the operation of the clearing houses—places where the representatives of all the banks met daily in the leading cities and presented for payment the notes of other banks and the cheques drawn upon other banks that had been paid into their institutions in the regular course of business. In Canada, the first clearing houses to be established were those of Halifax (1887), Montreal (1889), Toronto (1891), Hamilton (1891) and Winnipeg (1893), and the number has subsequently increased to 32. Statistics showing the annual aggregates of the transactions at each clearing house were published in the Canada Year Book as early as the 1893 edition (p. 524), while current monthly and weekly figures are given in the daily and financial press. In recent years, owing to the reduction in the number of the banks through amalgamations, the proportion of the inter-bank transactions recorded by the clearing houses to the grand total of banking transactions has declined, and the place of total bank clearings as a measure of business has been taken by total bank debits—*i.e.,* the totals of cheques charged to accounts at all banks. The total bank debits at all branch banks situated in the clearing-house cities of Canada have been compiled for 1924 and subsequent years by the Canadian Bankers' Association for the Dominion Bureau of Statistics, which has published the figures monthly and annually with interpretative analyses. Further, in order that an estimate might be made of the proportion of banking transactions outside the clearing-house cities to the total, the Canadian Bankers' Association secured for the month of January, 1929, the grand total of all cheques charged to accounts at all branch banks throughout the Dominion. The results were published in the Bureau's Monthly Review of Bank Debits for February, 1929, and showed that the aggregate of transactions outside the clearing-house cities was in January, 1929, 14½ p.c. of the grand total in the clearing-house cities. The corresponding figures in the five economic areas were as follows:—Maritime Provinces 90·6 p.c., Quebec 6·1 p.c., Ontario 17·2 p.c., Prairie Provinces 18·6 p.c., British Columbia 14·3 p.c. It would thus appear that only in the Maritime Provinces does the total of bank debits in clearing-house cities inadequately represent the grand total of business transactions throughout the whole area.

Clearing-House Transactions.—The appended table shows for the years 1926 to 1930 the total volume of clearings in the clearing houses of Canada. These figures, it may be added, represent not only actual city clearings but exchanges between numerous rural branches of the banks in each district.

25.—Amount of Exchanges of the Clearing Houses of Chartered Banks in Canada for the calendar years 1926-1930.

Clearing House.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$
Brandon	31,005,956	31,888,238	38,724,824	35,403,096	26,763,171
Brantford	55,117,564	63,699,310	72,529,308	76,801,737	58,564,628
Calgary	393,910,637	436,380,347	666,517,374	697,716,733	451,673,700
Chatham	35,577,758	40,639,402	43,568,049	41,712,000	32,815,670
Edmonton	259,611,167	286,632,841	351,325,045	358,961,724	293,550,893
Fort William	48,102,058	51,979,079	59,588,926	54,159,627	43,543,156
Halifax	150,800,486	160,582,907	185,678,418	197,539,723	174,720,962
Hamilton	268,402,609	296,401,045	337,852,407	350,828,242	310,976,401
Kingston	38,293,485	43,841,462	46,174,085	46,688,914	44,029,362
Kitchener	51,757,833	60,999,516	66,254,228	71,569,948	63,410,494
Lethbridge	29,565,725	31,865,310	40,774,009	38,164,110	29,064,557
London	142,856,910	167,784,864	180,871,281	183,917,716	168,047,076
Medicine Hat	15,462,821	18,017,757	26,616,621	26,445,424	17,303,187
Moncton	44,207,861	45,999,129	49,385,815	53,623,924	51,039,289
Montreal	5,646,347,421	6,771,872,658	8,072,843,473	8,279,414,820	6,917,957,798
Moose Jaw	64,190,200	69,893,412	73,000,603	72,493,575	59,359,874
New Westminster	39,253,105	41,565,489	44,775,067	50,789,127	43,641,522
Ottawa	338,607,358	374,560,769	431,183,370	443,895,304	372,586,750
Peterborough	41,685,282	46,265,622	48,837,555	51,283,226	47,113,834
Prince Albert	20,193,963	21,205,563	25,131,852	27,389,869	22,887,338
Quebec	319,659,403	349,324,254	361,754,089	375,097,842	339,596,344
Regina	241,153,813	259,731,291	312,089,797	337,388,121	252,351,215
Saint John	136,226,527	134,755,457	150,715,381	152,472,005	124,224,187
Sarnia	32,039,147	35,507,682	37,865,490	45,109,018	36,465,041
Saskatoon	103,237,691	111,929,059	138,687,497	146,354,851	117,775,186
Sherbrooke	44,259,486	47,348,680	50,673,178	54,664,846	45,958,551
Sudbury	–	–	–	27,208,321	57,927,754
Toronto	5,196,428,183	6,484,986,731	7,674,864,018	7,721,761,164	6,036,838,536
Vancouver	888,704,118	924,784,859	1,109,375,640	1,243,625,052	994,131,725
Victoria	110,885,953	119,552,545	134,095,845	151,226,015	125,397,653
Windsor	219,129,742	243,913,678	280,032,888	298,142,566	214,689,007
Winnipeg	2,708,415,756	2,794,528,267	3,443,151,986	3,393,339,677	2,517,469,597
Totals	**17,715,090,018**	**20,568,437,223**	**24,554,938,119**	**25,105,188,317**	**20,091,874,458**

Bank clearings, though generally regarded as a leading barometer of business conditions, are defective in that they record only inter-bank transactions—transactions through which one bank becomes either the debtor or the creditor of another. They do not record the numerous transactions in which the transfer of value is made within a single bank, as, for example, where the purchaser and the seller of values that are paid for by cheque carry their accounts in the same bank. As the number of separate banks has in recent years been steadily diminishing through amalgamations, there being only 11 in December, 1930, as compared with 18 in 1923, inter-bank transactions are bearing a steadily decreasing proportion to the total of business transacted, a fact which goes far to explain the relative smallness of the increase in bank clearings from 1926 to 1929 and the decrease in 1930 to a point below the 1927 level, as shown in Table **25.**

Bank Debits.—Since bank clearings have ceased to be a satisfactory measure of general business, the Bureau of Statistics in 1923 took up with the Canadian Bankers' Association the question of securing a record of bank debits, *i.e.*, of all cheques charged against accounts at all banks. The Bankers' Association agreed to secure from January, 1924, the monthly aggregate figures of the amount of cheques charged to accounts at all banking offices situated in the clearing-house cities of Canada, and the figures of cheques charged to accounts (bank debits) are given for the years 1926-1930 in Table **26.** The Weyburn Security Bank, which operated in southern Saskatchewan, voluntarily added a total of all cheques charged to accounts at all of its branches.

It will be noted, as establishing the need of the newer record, that bank debits for 1930 show an increase of 23·6 p.c. over those of 1926, while bank clearings in the later year show an increase of only 13·5 p.c. The bank debits are a comparable record for the five years; the bank clearings, owing to the reduction in the number of banks, are not a comparable record.

26.—Bank Debits at the Clearing-House Cities of Canada, by Individual Cities, calendar years 1926-1930.

Clearing-House Centre.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$
Maritime Provinces—					
Halifax	310,156,211	324,547,787	404,665,405	425,487,760	361,736,685
Moncton	80,079,852	84,077,248	91,313,729	99,597,577	101,018,427
Saint John	214,503,609	219,119,014	249,488,661	272,872,476	245,595,665
Totals	604,739,672	627,744,049	745,467,795	797,957,813	708,350,777
Quebec—					
Montreal	9,133,357,705	11,779,679,473	13,962,318,025	15,558,093,739	12,271,206,394
Quebec	653,974,690	745,180,824	794,833,137	788,145,269	744,930,005
Sherbrooke	122,139,414	119,046,018	155,506,587	137,428,244	120,921,940
Totals	9,909,471,809	12,643,906,315	14,912,657,749	16,483,667,252	13,137,058,339
Ontario—					
Brantford	104,344,131	120,130,422	143,943,039	166,590,813	126,813,356
Chatham	78,113,391	92,586,934	101,383,642	112,271,304	95,460,287
Fort William	93,312,892	98,596,600	108,176,187	102,154,515	78,028,739
Hamilton	625,859,573	677,172,777	814,420,963	909,896,874	831,837,930
Kingston	64,839,958	74,495,420	79,595,640	83,879,278	79,797,075
Kitchener	107,791,171	123,259,396	142,995,237	159,265,585	139,515,780
London	294,440,263	355,621,944	404,700,773	424,805,150	408,176,670
Ottawa	1,868,014,198	1,922,946,801	2,089,409,008	2,001,694,411	1,904,804,194
Peterborough	76,225,782	84,632,905	92,760,882	93,245,286	84,634,613
Sarnia	96,815,933	103,209,342	120,923,729	146,820,023	124,524,399
Sudbury	–	–	–	34,116,876	87,109,599
Toronto	8,209,525,043	10,536,876,258	12,673,220,316	13,714,209,353	10,654,982,452
Windsor	379,061,316	452,282,232	541,319,833	594,318,762	428,655,192
Totals	11,998,343,651	14,641,811,031	17,312,849,249	18,543,268,230	15,044,340,286
Prairie Provinces—					
Brandon	50,324,105	51,370,740	61,324,007	62,315,237	50,605,166
Calgary	717,869,597	734,173,249	1,096,733,543	1,253,618,912	898,426,300
Edmonton	398,020,461	437,356,863	546,841,716	603,871,484	570,301,889
Lethbridge	67,394,727	64,105,290	89,863,419	97,220,371	73,734,543
Medicine Hat	35,076,705	40,757,596	56,953,944	54,258,545	37,887,826
Moose Jaw	110,068,208	109,425,240	119,937,245	128,436,189	112,897,357
Prince Albert	28,605,444	31,358,667	35,799,271	39,150,683	32,683,118
Regina	404,126,726	441,328,792	552,941,674	630,264,345	570,766,671
Saskatoon	146,930,427	160,732,823	203,264,797	224,155,812	194,543,418
Winnipeg	3,877,247,424	4,004,980,180	5,187,680,266	4,788,952,527	3,712,135,033
Branches of the Weyburn Security Bank	49,982,244	51,396,596	55,372,926	40,562,191	25,099,552
Totals	5,885,646,068	6,126,986,036	8,006,712,808	7,922,806,296	6,279,080,873
British Columbia—					
New Westminster	77,071,830	82,663,727	92,705,331	105,357,294	93,831,458
Vancouver	1,553,256,186	1,595,939,598	1,984,485,771	2,365,678,383	1,812,724,948
Victoria	329,504,802	374,452,342	422,080,397	451,746,570	415,915,085
Totals	1,959,832,818	2,053,055,667	2,499,271,499	2,922,782,247	2,322,471,491
Grand Totals	**30,358,034,018**	**36,093,503,098**	**43,476,959,100**	**46,670,481,838**	**37,491,301,766**

Subsection 4.—Government and other Savings Banks.

In a comparatively new country where capital is relatively scarce, it is a natural thing that the banks which finance the business institutions should also absorb the bulk of the people's savings for use in promoting the business of the country. Thus in Canada the great bulk of the current savings of the people is found in the savings or notice deposits of the Canadian chartered banks, the annual average figures of which are given for recent years in Table **10** of this chapter, the 1930 average being $1,427,569,716. Further, the current savings of the Canadian people are going very largely into the purchase of life insurance, the total premiums paid in the single year 1929 aggregating $210,728,479. In comparison with the enormous figures of notice deposits in chartered banks and with total insurance in force, the deposits in the special savings banks are comparatively small, but are none the less significant.

There are three distinct types of savings banks in Canada at the present time, in addition to the savings divisions of the chartered banks and of trust and loan companies. First, there is the Post Office Savings Bank, the deposits in which are a direct obligation of the Dominion Government. Secondly, there are Provincial Government savings banking institutions in Ontario, in Manitoba and in Alberta, where the depositor becomes a direct creditor of the province. Thirdly, there are in the province of Quebec two important savings banks, the Montreal City and District Savings Bank and the Caisse d'Economie de Notre-Dame de Québec, established under Dominion legislation and making monthly reports to the Department of Finance.

Dominion Government Savings Banks.—Prior to 1929 there were two classes of Dominion Government savings bank in Canada, the Post Office Savings Bank, under the Post Office Department, and the Dominion Government Savings Bank, attached to the Department of Finance. The former was established under the Post Office Act of 1867 (31 Vict., c. 10) in order "to enlarge the facilities now available for the deposit of small savings, to make the Post Office available for that purpose, and to give the direct security of the Dominion to every depositor for repayment of all money deposited by him together with the interest due thereon". Branches of the Government Savings Bank proper, under the authority of the Finance Department, were established in the leading cities of Canada under the management of the Assistant Receivers-General, and in other places in the provinces of Nova Scotia and New Brunswick, under managers appointed by the Governor in Council. The Government Savings Bank was amalgamated with the Post Office Savings Bank in 1929. Historical statistics for both systems will be found in Table **27** and more detailed figures covering the last six years in Table **28.**

27.—Deposits with Government Savings Banks,[1] June 30, 1868-1906, and Mar. 31, 1907-1930.

NOTE.—Figures for all intermediate years will be found on p. 833 of the 1926 Year Book.

Year.	Postal Savings Bank.	Dominion Government Savings Bank.	Year.	Postal Savings Bank.	Dominion Government Savings Bank.
	$	$		$	$
1868	204,589	1,483,219	1914	41,591,286	13,976,162
1870	1,588,849	1,822,570	1915	39,995,406	14,006,158
1875	2,926,090	4,245,091	1916	40,008,418	13,519,855
1880	3,945,669	7,107,287	1917	42,582,479	13,633,610
1885	15,090,540	17,888,536	1918	41,283,479	12,177,283
1890	21,990,653	19,021,812	1919	41,654,960	11,402,098
1895	26,805,542	17,644,956	1920	31,605,594	10,729,218
1900	37,507,456	15,642,267	1921	29,010,619	10,150,189
1905	45,368,321	16,649,136	1922	24,837,181	9,829,653
1906	45,736,488	16,174,134	1923	22,357,268	9,433,839
1907	47,453,228	15,088,584	1924	25,156,449	9,055,091
1908	47,564,284	15,016,871	1925	24,662,060	8,949,073
1909	45,190,484	14,748,436	1926	24,035,669	8.794,870
1910	43,586,357	14,677,872	1927	23,402,337	8,519,706
1911	43,330,579	14,673,752	1928	23,463,210	7,640,566
1912	43,563,764	14,655,564	1929	28,375,770	[2]
1913	42,728,942	14,411,541	1930	26,086,036	[2]

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[1] Do not include Provincial Government savings banks.

[2] Included in Post Office Savings Bank.

28.—Total Combined Financial Business of Post Office and Dominion Government Savings Banks, Mar. 31, 1925-1930.

Item.	1925.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$	$
Deposits during year........	5,194,080	4,572,110	4,117,623	4,084,555	2,910,147	2,746,050
Interest on deposits.........	994,359	962,745	928,822	908,608	842,025	784,582
Total cash and interest......	6,188,439	5,534,854	5,046,445	4,993,163	3,752,172	3,530,632
Withdrawals................	6,788,846	6,315,444	5,959,275	6,449,036	4,519,507	5,820,366
At credit of depositors......	33,611,133	32,830,539	31,922,281	31,104,015	28,375,770	26,086,036

Provincial Government Savings Banks.—*Ontario.*—In the session of 1921, the Legislature of Ontario authorized the establishment of the Province of Ontario Savings Office, and in March, 1922, the first branches were opened. The funds received from this source are used almost exclusively to finance farm loans under the Agricultural Development Act. Interest at the rate of 3 p.c. per annum compounded half yearly is paid on all accounts. The deposits are all repayable on demand. Total deposits on Oct. 31, 1930, were $23,307,118 and the number of depositors at that date was over 80,000. Seventeen branches are in operation throughout the province.

Manitoba.—A system somewhat similar to the Ontario system is in operation in Manitoba, where 7 savings offices of the province had on Dec. 31, 1930, 41,857 deposit accounts with deposits aggregating $14,232,495.

Alberta.—In Alberta the provincial Treasury receives savings deposits and issues savings certificates bearing interest at 4 p.c. The total amount in savings certificates was $11,805,693 on Mar. 31, 1930.

Other Savings Banks.—The Montreal City and District Savings Bank, founded in 1846 and now operating under a charter of 1871, had on Dec. 31, 1930, a paid-up capital of $2,000,000, savings deposits of $55,319,814, and total liabilities of $57,096,970. Total assets amounted to $61,543,430, including over $43,000,000 of Dominion, provincial and municipal securities. The Caisse d'Économie de Notre-Dame de Québec, founded in 1848 under the auspices of the St. Vincent de Paul Society, incorporated by Act of the Canadian Legislature in 1855 and given a Dominion charter by 34 Victoria, c. 7, had on Dec. 31, 1930, savings deposits of $12,189,076, a paid-up capital of $1,000,000 and total assets of $16,035,401.

The co-operative people's banks of Quebec (178 reported to the Provincial Government in 1929) are also an important element in promoting thrift and assisting business in that province. Thus on Dec. 31, 1929, savings deposits in these banks amounted to $8,090,614, while the amount on loan was $10,314,622. Loans granted in 1929 numbered 17,994, amounting to $4,249,650. Profits realized amounted to $645,616. (See p. 786.)

29.—Deposits in the Montreal City and District Bank and the Caisse d'Économie de Notre-Dame de Québec, as at June 30, 1868-1906, and Mar. 31, 1907-1930.

NOTE.—Figures for all intermediate years will be found on p. 833 of the 1926 Year Book.

Year.	$	Year.	$	Year.	$
1868	3,369,799	1908	28,927,248	1919	46,799,877
1870	5,369,103	1909	29,867,973	1920	53,118,053
1875	6,611,416	1910	32,239,620	1921	58,576,775
1880	6,681,025	1911	34,770,386	1922	58,292,920
1885	9,191,895	1912	39,526,755	1923	59,327,961
1890	10,908,987	1913	40,133,351	1924	64,245,811
1895	13,128,483	1914	39,110,439	1925	65,837,254
1900	17,425,472	1915	37,817,474	1926	67,241,344
1905	25,050,966	1916	40,405,037	1927	69,940,351
1906	27,399,194	1917	44,139,978	1928	72,695,422
1907	28,359,618	1918	42,000,543	1929	70,809,603
				1930	68,846,366

Section 3.—Loan and Trust Companies.

Business such as that now transacted by loan and trust companies was first carried on by an incorporated Canadian company in 1844, when the Lambton Loan and Investment Co. was established, while the Montreal Building Society was incorporated by c. 94 of the Statutes of 1845. In order to legalize and encourage such operations in Upper Canada, an Act was passed by the Canadian Legislature in 1846, followed in 1847 and 1849 by Acts in New Brunswick and Nova Scotia respectively. These early companies were termed building societies; their activities comprised mainly the lending of money on the security of real estate and also the lending of money to members without their being liable to the contingency of losses or profits in the business of the society. In addition to these operations, such companies were authorized by an Act of 1859 to "borrow money to a limited extent". Later, by the Building Societies Act of 1874, authority was given to receive money on deposit and to issue debentures, subject to certain restrictions as to amounts of deposits.

The number of loan and savings societies in operation and making returns to the Government at Confederation was 19, with an aggregate paid-up capital of $2,110,403 and deposits of $577,299. Rapid increases in the number of companies and total volume of business resulted from subsequent legislation until in 1899 102 companies (including trust companies) made returns, showing capital stock paid up $47,337,544, reserve funds of $9,923,728 and deposits of $19,466,676; total liabilities had increased from $3,233,985 to $148,143,496 between 1867 and 1899. By 1913 the number of companies had declined, through amalgamations and absorptions, to 74 (including 16 trust companies), with a combined paid-up capital of $68,091,042, reserves of $35,959,342, deposits of $32,681,806 and total liabilities of $478,658,228.

The laws relating to trust and loan companies were revised by the Loan and Trust Companies Acts of 1914 (4-5 Geo. V, cc. 40 and 55), with the result that the statistics of provincially incorporated loan and trust companies ceased to be collected. The statistics of Tables **31** and **32** refer only to those companies operating under Dominion charter, except that beginning in 1926 the statistics of loan companies and trust companies incorporated by the province of Nova Scotia, and brought by the laws of that province under the examination of the Dominion Department of Insurance, have been included. Also, since 1922 provincially incorporated loan and trust companies make voluntary returns of their principal statistics to the Dominion Department of Insurance, so that all-Canadian totals are again available for recent years. As indicating the progress of the aggregate of loan company business in Canada, it may be stated that the book value of the assets of all loan companies rose from $188,637,298 in 1922 to $206,596,109 in 1929. The total assets in the hands of the trust companies increased from $805,689,070 in 1922 to $2,059,862,042 in 1929. The latter figure included $1,836,029,835 of "estates, trusts and agency funds" (Table **30**).

Functions of Loan Companies.—The principal function of loan companies is the lending of funds on first mortgage security, the money thus made available for development purposes being secured mainly by the sale of debentures to the investing public and by savings department deposits. Of the loan companies operating under provincial charters, the majority conduct loan, savings and mortgage businesses, generally in the more prosperous farming communities.

Functions of Trust Companies.—Trust companies, it may be added, act as executors, trustees and administrators under wills or by appointment, as trustees under marriage or other settlements, as agents or attorneys in the management of the estates of the living, as guardians of minor or incapable persons, as financial agents for municipalities and companies, and, where so appointed, as authorized trustees in bankruptcy. Some companies receive deposits, but the lending of actual trust funds is restricted by law. The figures of Table **30** are of particular interest in the case of trust companies, which, on account of the nature of their transactions, are peculiarly provincial institutions, since their chief duties are intimately connected with the matter of probate, which lies within the sole jurisdiction of the provinces.

30.—Summary Statistics of the Operations of Dominion and Provincial Loan and Trust Companies in Canada, 1929.

LOAN COMPANIES.

Item.	Provincial Companies.	Dominion Companies.	Total.
	$	$	$
Book value of assets	71,238,014	135,358,095	206,596,109
Liabilities to the public	43,860,676	98,847,526	142,708,202
Capital Stock—			
Authorized	33,610,000	64,650,000	98,260,000
Subscribed	14,228,385	28,311,800	42,540,185
Paid up	13,395,820	20,292,840	33,688,660
Reserve and contingency funds	11,057,233	14,438,022	25,495,255
Other liabilities to shareholders	1,134,919	1,075,778	2,210,697
Total liabilities to shareholders	25,587,972	35,806,640	61,394,612
Net profit realized during year	1,450,404	2,303,525	3,753,929
TRUST COMPANIES.			
Assets—			
Company funds	66,601,357	14,669,497	81,270,854
Guaranteed funds	118,096,090	24,465,263	142,561,353
Estates, trusts and agency funds	1,626,024,109	210,005,726	1,836,029,835
Totals	1,810,721,556	249,140,486	2,059,862,042
Capital Stock—			
Authorized	66,650,000	21,150,000	87,800,000
Subscribed	31,997,350	12,392,400	44,389,750
Paid up	28,153,709	10,512,879	38,666,588
Reserve and contingency funds	21,002,359	3,325,020	24,327,379
Unappropriated surplus	2,287,852	157,179	2,445,031
Net profit realized during year	4,307,772	891,283	5,199,055

31.—Liabilities and Assets of Loan Companies Chartered by the Dominion Government, 1914-1929.

LIABILITIES.

Year.	Liabilities to Shareholders.			Liabilities to the Public.				
	Capital Paid up.	Reserve Funds.	Total.[1]	Debentures and Debenture Stock.		Deposits.	Interest Due and Accrued.	Total.[2]
				Canada.	Elsewhere and Sundries.			
	$	$	$	$	$	$	$	$
1914	19,238,512	9,374,363	29,375,689	6,688,124	26,101,702	8,104,072	318,504	41,212,402
1915	19,401,856	9,878,266	30,155,708	6,764,836	25,538,301	9,193,194	340,627	41,836,958
1916	19,673,934	10,319,176	29,993,110	6,889,946	24,653,657	8,987,720	347,864	40,879,187
1917	19,813,217	10,705,215	30,518,432	7,075,081	22,430,846	8,934,825	351,420	38,792,172
1918	19,945,858	10,938,193	30,884,051	7,442,982	23,501,565	7,802,539	364,087	39,111,173
1919	20,191,612	11,923,234	32,114,846	–	–	9,347,096	–	42,405,175
1920	24,062,521	13,442,364	39,110,640	16,982,032	18,451,054	15,257,840	–	51,302,620
1921	25,750,966	14,278,619	40,629,689	17,682,083	20,265,766	15,868,926	480,547	54,651,433
1922	25,241,600	14,740,834	40,013,363	20,360,480	22,390,990	16,910,558	499,661	60,386,903
1923	24,939,622	14,879,516	41,239,712	22,667,861	24,315,010	15,854,029	577,460	63,600,093
1924	22,592,057	13,734,681	37,122,138	25,426,434	21,901,431	15,970,077	543,131	63,989,554
1925	23,632,474	14,555,603	38,461,375	30,052,139	21,600,001	18,660,122	538,755	71,066,398
1926[5]	23,498,336	14,861,280	38,977,937	36,613,088	21,572,810	21,316,150	663,987	80,447,480
1927[5]	20,699,710	14,867,432	38,596,121	47,818,386	19,965,321	27,019,323	868,694	95,895,897
1928[5]	20,139,831	14,113,871	36,179,771	51,269,133	15,292,362	30,671,257	940,528	98,453,583
1929[5]	20,292,840	14,438,022	35,806,640	52,857,277	14,813,287	29,602,789	942,178	98,847,526

ASSETS.

Year.	Real Estate.[3]	Mortgages on Real Estate.	Collateral Loans.	Bonds, Debentures, Stocks and other Company Property.	Cash on hand and in Banks.	Interest, Rents, etc., Due and Accrued.	Total.[4]
	$	$	$	$	$	$	$
1914	1,763,892	53,710,084	–	11,301,869	3,220,803	591,443	70,588,091
1915	1,779,030	52,807,357	–	12,793,309	3,933,004	679,966	71,992,666
1916	1,485,267	51,981,926	–	13,482,805	3,241,053	681,246	70,872,297
1917	1,577,576	49,712,872	–	14,156,080	3,478,220	751,475	69,676,223
1918	1,512,520	48,293,988	–	16,640,017	3,023,839	524,664	69,995,028
1919	–	–	–	–	2,838,636	261,810	74,520,021
1920	4,753,049	63,725,084	1,750,128	16,593,932	3,363,877	1,658	90,413,261
1921	4,979,779	67,147,513	1,618,865	15,328,797	4,568,984	2,790,348	96,698,810
1922	5,309,854	69,824,985	1,916,976	16,967,305	4,800,649	2,989,460	102,462,090
1923	5,515,170	73,858,726	1,772,148	16,445,635	3,467,822	3,353,822	104,866,102
1924	4,035,532	71,468,506	1,722,803	18,568,856	3,636,592	2,470,756	101,919,837
1925	3,982,921	79,106,407	1,532,366	20,210,387	3,442,928	2,180,700	110,638,667
1926[5]	4,150,307	89,873,578	1,161,886	18,426,169	4,284,648	2,274,535	120,321,095
1927[5]	3,999,808	102,501,193	1,585,891	18,884,434	5,672,479	2,020,087	134,669,734
1928[5]	4,172,704	105,121,365	2,610,947	17,874,808	3,258,762	1,746,138	134,793,527
1929[5]	6,156,227	103,806,670	2,700,720	17,654,463	3,195,801	1,834,297	135,358,095

[1] Includes other liabilities to shareholders. [2] Includes other liabilities to the public. [3] Book value of real estate for companies' use and other real estate. [4] Includes other assets. [5] Includes statistics of loan companies chartered by Nova Scotia but inspected by the Dominion Department of Insurance.

32.—Liabilities and Assets of Trust Companies Chartered by the Dominion Government, 1914-1929.

COMPANY FUNDS—LIABILITIES.

Year.	To Shareholders.				To the Public.	Total.
	Capital Paid up.	Reserve Funds.	Other Liabilities.	Total.	Taxes, Borrowed Money, etc.	
	$	$	$	$	$	$
1914	6,051,146	2,541,413	202,427	8,794,986	1,948,414	10,743,400
1915	5,307,128	1,159,479	233,738	6,700,345	606,005	7,306,350
1916	5,673,670	1,245,589	287,214	7,206,473	620,470	7,826,943
1917	5,297,130	1,275,789	352,153	6,925,072	731,220	7,656,292
1918	6,266,203	1,477,617	415,938	8,159,758	676,379	8,836,137
1919	7,356,474	1,643,464	391,625	9,391,563	616,378	10,007,941
1920	7,465,376	1,908,753	391,975	9,766,104	561,265	10,327,369
1921	7,532,777	1,746,579	167,303	9,446,659	499,264	9,945,923
1922	7,678,401	1,912,123	46,068	9,636,592	329,827	9,966,419
1923	7,772,749	1,908,887	5,674	9,687,310	832,724	10,520,034
1924	8,796,479	1,918,567	169,390	10,884,436	766,783	11,651,219
1925	9,523,618	2,261,890	184,153	11,969,661	232,813	12,202,474
1926[1]	9,666,449	2,313,464	393,932	12,373,845	580,380	12,954,225
1927[1]	9,824,031	2,653,673	443,377	12,921,081	571,279	13,492,360
1928[1]	10,424,249	2,877,766	549,905	13,851,920	741,364	14,593,284
1929[1]	10,512,879	3,325,020	257,288	14,095,187	325,914	14,421,101

COMPANY FUNDS—ASSETS.

Year.	Loans.			Real Estate.	Government, Municipal and School Securities, Owned.	Stocks.	Cash on hand and in Banks.	All other Assets Belonging to the Companies.	Total Assets of the Companies.
	On Real Estate, First Liens.	On Real Estate, Second Liens.	On Stocks and Securities.						
	$	$	$	$	$	$	$	$	$
1914	5,189,797	113,095	557,625	–	787,400	–	179,928	3,033,756	9,861,601
1915	3,972,520	102,395	647,524	–	876,760	–	172,448	1,529,522	7,301,169
1916	3,906,986	544,747	374,392	–	1,116,110	–	266,964	1,585,513	7,794,712
1917	3,993,484	297,387	253,781	–	1,145,815	–	173,130	1,789,364	7,652,961
1918	3,933,962	101,784	294,472	–	1,839,000	–	724,689	1,936,365	8,830,272
1919	4,432,455	557,171	496,769	–	2,170,618	–	706,763	1,635,773	9,999,549
1920	4,736,064	–	512,800	701,564	2,500,942	349,294	576,125	817,463	10,224,252
1921	4,408,914	–	344,302	908,618	2,400,914	253,779	603,618	1,317,785	10,237,930
1922	5,254,434	–	391,475	973,022	1,584,234	264,186	473,687	1,412,205	10,353,243
1923	5,402,752	–	375,129	1,048,682	1,656,304	292,564	481,672	1,573,406	10,830,509
1924	5,114,753	–	446,001	1,551,673	1,598,971	336,818	524,368	2,483,675	12,056,259
1925	5,143,123	–	618,250	1,969,737	2,323,064	432,956	203,431	1,763,355	12,453,916
1926[1]	5,450,907	–	580,128	2,091,322	2,318,344	477,917	705,064	1,571,595	13,195,277
1927[1]	5,668,574	–	977,514	2,140,344	1,993,823	491,083	804,469	1,603,906	13,682,713
1928[1]	5,651,201	–	1,156,698	2,148,354	2,808,630	495,094	917,019	1,589,288	14,766,284
1929[1]	5,652,084	–	1,121,536	1,959,581	3,228,722	425,077	659,466	1,623,031	14,669,497

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[1] Includes statistics of trust companies chartered by Nova Scotia but inspected by the Dominion Department of Insurance.

32.—Liabilities and Assets of Trust Companies Chartered by the Dominion Government, 1914-1929—concluded.

TRUST FUNDS—LIABILITIES.

Year.	Guaranteed Funds.			Estate, Trust and Agency Funds.	Total.
	Principal.[1]	Interest Due and Accrued.	Total.		
	$	$	$	$	$
1914	8,560,468	–	8,560,468	29,832,343	38,392,811
1915	9,727,099	–	9,727,099	31,002,934	40,730,033
1916	10,405,318	–	10,405,318	36,756,902	47,162,220
1917	11,149,958	–	11,149,958	38,141,389	49,291,347
1918	12,743,379	–	12,743,379	56,194,857	68,938,236
1919	12,704,672	–	12,704,672	52,084,047	64,788,719
1920	9,339,070	135,971	9,475,041	57,225,303	66,700,344
1921	8,424,128	125,514	8,549,642	79,252,639	87,802,281
1922	8,473,720	126,868	8,600,588	92,449,298	101,049,886
1923	10,306,767	178,096	10,484,863	102,764,835	113,249,698
1924	14,027,120	133,583	14,160,703	123,082,289	137,242,992
1925	15,897,339	–	15,897,339	131,420,502	147,317,841
1926	17,979,412	–	17,979,412	139,777,235	157,756,647
1927	22,464,753	–	22,464,753	161,040,061	183,504,814
1928	24,105,724	–	24,105,724	202,655,185	226,760,909
1929	24,465,263	–	24,465,263	210,005,726	234,470,989

[1] Includes money in trust for investment amounting to $2,562,455 in 1914, $3,113,170 in 1915, $3,799,149 in 1916, $3,443,682 in 1917 and $5,170,463 in 1918; corresponding amounts are included under the heading "Estate, trust and agency funds" for the years 1920 to 1929. The figures for 1919 are not available.

Section 4.—Sales of Canadian Bonds.

Interesting aspects of public financing and of the investment of capital in Canadian development during the twentieth century are measured by statistics of the sales of Canadian bonds since 1904 shown in Table **33.** (The figures are reproduced from *The Monetary Times Annual,* 1931.) In the first part of this table, the bonds sold in each year are divided according to whether the financing was for Dominion, Provincial or Municipal Governments, railways or other corporations, while in the second part of the table the sales in each year are distributed according to sales in Canada, United States and Great Britain.

The total sales of Canadian bonds naturally reached a very high mark toward the close of the war owing to the huge amounts of Dominion Government financing required to cover the war expenditures. However, with the exception of the years 1918 and 1919, the total sales were greater in 1930 than in any other year. An important factor in the increase of more than $100,000,000 over 1929 was no doubt the more favourable conditions in the bond market in 1930. The break in the stock market in the autumn of 1929 resulted in a drop from the former high level of interest rates which had prevailed in the call loan market and thus released great sums of money for investment in bonds. Furthermore, the ending of the fever of speculation in stocks turned the attention of the investing public toward the greater security of bonds as an investment. Interest rates dropped and the prices of good bonds advanced with the result that bonds with ample security behind them could be sold under conditions more favourable to the seller than for some years before.

Dominion Government financing through bond sales since 1907 may be divided into three periods: the first from 1908 to 1914, when the money was required largely for internal development of the country, public works and Government railways; the second from 1915 to 1919, when war expenditures required very large borrowings; and the third since the war, when the issues have been largely required for refunding former loans at more favourable interest rates and for expenditures in connection with public works and railways.

Provincial bond issues have been on a much larger scale since the war than formerly, probably due to the development of provincially-owned public utilities and of improved highways. Sales of the bonds of Canadian municipalities, on the other hand, were greater in 1913, toward the end of the "land boom", than they have been in any other year, although sales in 1930 almost reached the record of that former year. However, allowing for the increased population in cities and towns, there has not been the same marked increase in the average annual sales of municipal bonds, in the period since the war compared with the period before the war, that is noticeable in the case of provincial bonds.

Sales of corporation bonds have been at a much higher level during the past five years than in any other period. Public utility corporations account for a large proportion of corporation bond issues and the recent rapid expansion in hydro-electric development is the probable reason for the large total of securities of this type in the last few years.

A very striking change has taken place during the present century in the market in which Canadian bond issues are principally sold. Prior to the war, a great part of the capital required for Canadian development was drawn from Great Britain, and the major portion of Canadian bond issues were sold there. The coming of the war temporarily eliminated that market, and Canadians turned largely to the United States for outside capital. However, the great increase in wealth during and since the war has enabled a much greater proportion of public and industrial financing to be done at home, and beginning with he Victory Loan campaigns, Canadians not only learned how to invest their money in bonds, but had the necessary funds to invest on a large scale in bond issues. These facts are reflected by the figures in Table **33** which show that in the last 15 years more than 60 p.c. of the total issues of Canadian bonds have been sold within Canada.

33.—Sales of Canadian Bonds, by Class of Bond and Country of Sale, calendar years 1904-1930.

(From *The Monetary Times Annual.*)

CLASSES OF BONDS.

Calendar Year.	Dominion.	Provincial.	Municipal.	Railway.	Corporation.	Total.
	$	$	$		$	$
1904	–	11,146,000	14,684,247	–	9,344,000	35,174,247
1905	–	346,087	9,013.163	–	125,515,281	134,874,531
1906	–	10,000,000	8,332,008	–	35,655,000	53,987,008
1907	–	9,274,000	14,430,540	–	58,931,200	82,635,740
1908	47,665,000	550,083	44,814,930	–	103,326,508	196,356,521
1909	62,500,000	9,187,500	31,532,960	100,803,180	61,134.612	265,158,252
1910	45,000,000	10,000,000	49,043,325	41,090,000	85,837,265	231,000,590
1911	–	11,375,000	30,295,838	85,611,265	139,530,885	266,812,988
1912	25,000,000	25,639,700	47,159,288	45,014,925	130,124,069	272,937,982
1913	34,066,666	36,850,000	110,600,936	65,895,880	126,381.813	373,795,295
1914	48,666,666	56,100,000	79,133,996	59,719,000	29,315,405	272,935.067
1915	170,000,000	48,105,000	67,393,328	33,675,000	15,933,000	335,106.328
1916	175,000,000	33,173,000	93,977,542	22,240,000	32,492,000	356,882,542
1917	650,000,000	15,300,000	24,198,079	17,700,000	18,850,000	726,039,079
1918	689,016,000	18,605,000	43,570,361	19,600,000	4,565,000	775,356,361
1919	753,000,000	52,374,000	26,274,089	35,359,133	42,930,000	909,937,222
1920	–	125,993,000	56,371,391	96,500,000	46,050,276	324,914,667
1921	–	160,745,400	84,776,931	96,733,000	61,335,825	403,591,156
1922	200,000,000	114,918,000	87,088,877	13,505,100	76,885,500	492,397,477
1923	200,000,000	106,279,000	83,686,422	27,500,000	97,352,320	514,817,742
1924	175,000,000	89,640,000	88,731,612	157,375,000	69,179,180	579,925,792
1925	169,333,333	106,970,000	46,218,987	40,925,195	120,085,833	483,533,348
1926	105,000,000	76,633,267	65,020,194	34,500,000	250,919,200	542,072,661
1927	45,000,000	114,795,500	72,742,114	80,000,000	289,680,067	602,217,681
1928	–	92,992,500	27,120,588	48,396,000	285,083,000	453,592,088
1929	–	119,960,500	98,667,809	199,200,000	243,330,600	661,158,909
1930	140,000,000	160,004,000	109,648,063	137,238,000	220,335,000	767,245,063

DISTRIBUTION OF SALES BY COUNTRIES.

Calendar Year.	Sold in Canada.	Sold in United States.	Sold in Great Britain.	Total.
	$	$	$	$
1904	24,235,247	8,354,500	2,584,500	35,174,247
1905	39,996,354	9,256,782	85,621,395	134,874,531
1906	23,304,958	4,118,350	26,563,700	53,987,008
1907	14,761,683	4,779,000	63,095,057	82,635,740
1908	24,585,140	6,316,350	165,455,031	196,356,521
1909	60,433,964	10,367,500	194,356,788	265,158,252
1910	39,296,462	3,634,000	188,070,128	231,000,590
1911	44,989,878	17,553,967	204,269,143	266,812,988
1912	37,735,182	30,966,406	204,236,394	272,937,982
1913	45,603,753	50,720,762	277,470,780	373,795,295
1914	32,999,860	53,944,548	185,990,659	272,935,067
1915	115,325,214	178,606,114	41,175,000	335,106,328
1916	102,938,778	206,943,764	47,000,000	356,882,542
1917	546,330,714	174,708,365	5,000,000	726,039,079
1918	727,446,361	33,310,000	14,600,000	775,356,361
1919	705,385,419	199,446,670	5,105,133	909,937,222
1920	101,830,667	23,084,000	–	324,914,667
1921	213,326,543	178,113,613	12,151,000	403,591,156
1922	250,184,984	242,212,493	–	492,397,477
1923	427,868,742	84,517,000	2,432,000	514,817,742
1924	336,758,887	239,544,405	3,622,500	579,925,792
1925	271,251,682	181,870,000	30,411,666	483,533,348
1926	263,862,718	269,209,943	9,000,000	542,072,661
1927	373,637,014	223,714,000	4,866,667	602,217,681
1928	278,080,088	159,512,000	16,000,000	453,592,088
1929	378,395,909	263,654,000	19,109,000	661,158,909
1930	368,868,063	393,632,000	4,745,000	767,245,063

CHAPTER XXIII.—INSURANCE.[1]

Insurance companies transacting business throughout the Dominion of Canada are licensed by the Dominion Government under Acts administered by the Department of Insurance under the Minister of Finance, while other insurance companies, doing business only in one province, or, by arrangement, in more provinces than one, are licensed by Provincial Governments. The statistics here published are in the main those of companies doing business under licence from the Dominion Government, and are divided into three classes relating to:—(1) insurance against fire, (2) life insurance, and (3) insurance of a miscellaneous character, covering risks of accident, guarantee, employers' liability, sickness, burglary, hail, steam boiler, tornado, weather, inland transportation, automobile, sprinkler leakage, live stock and titles. These statistics refer in all cases to calendar years and are compiled from the reports of the Department of Insurance.

Since 1915, the Department of Insurance has endeavoured to collect from the available sources statistics of the business transacted by companies holding licences from the Provincial Governments of Canada, or permitted by the laws of the provinces to transact business without a licence. The business of the provincial licensees is divided into three classes:—(1) business transacted by provincially incorporated companies within the province by which they are incorporated; (2) business transacted by provincially incorporated companies in provinces other than those by which they are incorporated; and (3) business transacted by British and foreign companies licensed by the Provincial Governments. Further, under section 129 of The Insurance Act (c. 101, R.S.C. 1927), fire insurance on property in Canada may be effected, under specified conditions, with companies or associations outside of Canada which are not licensed to transact insurance business in Canada.

This chapter is brought to a close with a presentation of the statistics of Dominion Government annuities, administered by the Department of Labour but closely related to the field of insurance.

Section 1.—Fire Insurance.

Fire insurance in Canada began with the establishment by British fire insurance companies of agencies, usually situated in the sea ports and operated by local merchants. The oldest existing agency of a British company is that of the Phœnix Fire Office of London, now the Phœnix Assurance Co., Ltd., which commenced business in Montreal in 1804. On account of the growth of the insurance business of these early British companies, branch offices were established and local managers were appointed, charged with directing the companies' affairs in Canada.

The Halifax Fire Insurance Co. is the first purely Canadian company of which any record is available. Founded in 1809 as the Nova Scotia Fire Association, it was chartered in 1819 and operated in the province of Nova Scotia until 1919, when it was granted a Dominion licence. Among the other pioneer fire insurance companies still in operation, mention may be made of the following: the Quebec Fire Assurance Co., which commenced business in 1818 and was largely confined in ownership and operations to Quebec province; the

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[1] The statistics of fire, life and miscellaneous Insurance have been revised by G. D. Finlayson, Superintendent of Insurance, and those pertaining to Government Annuities by H. H. Ward, Deputy Minister, Department of Labour.

British America Assurance Co., incorporated in 1833, the oldest company in Ontario; the Western Assurance Co., organized in 1851, and, after a rapid and steady growth, one of the largest companies of its kind on the continent; two United States companies, the Ætna Insurance Co., Hartford, Conn., and the Hartford Fire Insurance Co., which commenced business in Canada in 1821 and 1836 respectively.

Any company desirous of carrying on business throughout Canada must obtain a licence from the Dominion Government, but if it proposes restricting its operations to one particular province, a licence may be had from that province, and it may transact business within such limits without regard to any general laws of the Dominion relating to insurance. In 1875 a Department of Insurance was created as a branch of the Finance Department at Ottawa, under the supervision of an officer known as the " Superintendent of Insurance", whose duties are to see that the laws enacted from time to time by the Canadian Parliament are duly observed by the companies. Some important requirements under these laws are:—(1) a deposit of $50,000 of approved securities with the Government; (2) the appointment of a chief agent with power of attorney from the company; (3) the filing of a statement showing the financial position of the company at the time of its application for a licence, and subsequent annual statements of its business. In addition, books of record must be kept at its chief office and be opened to the inspection of Government officers whose practice is to examine them annually.

The report of the Superintendent of Insurance for the year ended Dec. 31, 1929, shows that at that date there were 224 fire insurance companies doing business in Canada under Dominion licences; of these 51 were Canadian, 67 were British and 106 were foreign companies, whereas in 1875, the first year for which authentic records were collected by the Insurance Department, 27 companies operated in Canada—11 Canadian, 13 British and 3 American. The proportionate increase in the number of British and foreign companies from 59 p.c. to 77 p.c. of the total number is a very marked point of difference between the fire and life insurance businesses in Canada, the latter being carried on very largely by Canadian companies.

Although in its early days the Dominion did not prove a very lucrative field for fire insurance companies, the great advance in building construction and the wide use of improved fire appliances and safety devices have reduced materially the danger of serious conflagrations and have placed the risks assumed by companies in Canada on an equality with those of other countries. A general decline in the rate of losses paid to premiums received may be noted in recent years (Table 1).

A feature of the fire insurance business during recent years, besides the increase in premiums received, is the continued increase in the number of companies which are operating on the mutual or reciprocal plan. These companies, in which all profits or losses are directly received or paid by the policyholders, are making themselves felt as competitive factors in the fire insurance business.

Statistics of Fire Insurance.—Statistical tables of fire insurance in Canada follow, illustrative of the progress of total business since 1869 and of the operations of individual companies for the year 1929. The net amount of fire insurance in force on Dec. 31, 1929, with companies holding Dominion licences, was $9,431,169,594, while the net amount in force with provincial companies on the same date was $1,324,757,247. In addition, policies amounting to $859,437,-

033 were in force during the year 1928 (the latest year for which information is available) by companies, associations or underwriters not licensed to transact business in Canada. Thus the grand total fire insurance in force on Dec. 31, 1929, would approximate $11,615,364,000. Fire insurance in force in companies operating under Dominion licences increased by $177,296,132 in 1930.

Table **1** shows figures of the growth since 1869 of companies holding Dominion licences and Table **2** shows the business done in Canada by individual companies during the year 1929, while in Tables **3**, **4** and **5** are given figures of the assets, liabilities, income and expenditure of companies of various nationalities during the years 1924 to 1929. A close study of the various items included in these tables will afford an excellent idea of the type of business transacted by these various groups. A further summary of business by provinces is given in Table **6** for the years 1928, and 1929, with premiums and losses shown by nationality of companies. Further, a general summary of the business transacted by both Dominion and provincial licensees is given in Table **7**, with business by unlicensed companies added in Table **8.**

1.—Fire Insurance in Force, in Companies Operating under Dominion Licences, Premiums Received, Losses Paid and Percentage of Losses to Premiums, 1869-1930.

Year.	Amount In Force at end of Year.	Premiums Written.	Losses Paid.	Percentage of Losses to Premiums.	Year.	Amount In Force at end of Year.	Premiums Written.	Losses Paid.	Percentage of Losses to Premiums.
	$	$	$	p.c.		$	$	$	p.c.
1869..	188,359,809	1,785,539	1,027,720	57·56	1901..	1,038,687,619	9,650,348	6,774,956	70·20
1870..	191,549,586	1,916,779	1,624,837	84·77	1902..	1,075,263,168	10,577,084	4,152,289	39·26
1871..	228,453,784	2,321,716	1,549,199	66·73	1903..	1,140,453,716	11,384,762	5,870,716	51·57
1872..	251,722,940	2,628,710	1,909,975	72·66	1904..	1,215,013,931	13,169,882	14,099,534	107·06
1873..	278,754,835	2,968,416	1,682,184	55·67	1905..	1,318,146,495	14,285,671	6,000,519	42·00
1874..	306,844,219	3,522,303	1,926,159	54·68	1906..	1,443,902,244	14,687,963	6,584,291	44·83
1875..	364,421,029	3,594,764	2,563,531	71·31	1907..	1,614,703,536	16,114,475	8,445,041	52·41
1876..	404,608,180	3,708,006	2,867,295	77·33	1908..	1,700,708,263	17,027,275	10,279,455	60·37
1877..	420,342,681	3,764,005	8,490,919	225·58	1909..	1,863,276,504	17,049,464	8,646,826	50·72
1878..	409,899,701	3,368,430	1,822,674	54·11	1910..	2,034,276,740	18,725,531	10,292,393	54·96
1879..	407,357,985	3,227,488	2,145,198	66·47	1911..	2,279,868,346	20,575,255	10,936,948	53·16
1880..	411,563,271	3,479,577	1,666,578	47·90	1912..	2,684,355,895	23,194,518	12,119,581	52·25
1881..	462,210,968	3,827,116	3,169,824	82·83	1913..	3,151,930,389	25,745,947	14,003,759	54·39
1882..	526,856,478	4,229,706	2,664,986	63·01	1914..	3,456,019,009	27,499,158	15,347,284	55·81
1883..	572,264,041	4,624,741	2,920,228	63·14	1915..	3,531,620,802	26,474,833	14,161,949	53·49
1884..	605,507,789	4,980,128	3,245,323	65·16	1916..	3,720,058,236	27,783,852	15,114,063	54·40
1885..	611,794,479	4,852,460	2,679,287	55·22	1917..	3,986,197,514	31,246,530	16,379,101	52·42
1886..	586,773,022	4,932,335	3,301,388	66·93	1918..	4,523,514,841	35,954,405	19,359,352	53·84
1887..	634,767,337	5,244,502	3,403,514	64·90	1919..	4,923,024,381	40,031,474	16,679,355	41·67
1888..	650,735,059	5,437,263	3,073,822	56·53	1920..	5,969,872,278	50,527,937	21,935,387	43·41
1889..	684,538,378	5,588,016	2,876,211	51·47	1921..	6,020,513,832	47,312,564	27,572,560	58·28
1890..	720,679,621	5,836,071	3,266,567	55·97	1922..	6,348,637,436	48,168,310	32,848,020	68·19
1891..	759,602,191	6,168,716	3,905,697	63·31	1923..	6,806,937,041	51,169,250	32,142,494	62·82
1892..	821,410,072	6,512,327	4,377,270	67·22	1924..	7,224,475,267	49,833,718	29,186,904	58·57
1893..	814,687,057	6,793,595	5,052,690	74·37	1925..	7,583,297,899	51,040,075	26,943,089	52·79
1894..	836,067,202	6,711,369	4,589,363	68·38	1926..	8,051,444,136	52,595,923	25,705,975	48·87
1895..	837,872,864	6,943,382	4,993,750	71·92	1927..	8,287,732,966	51,375,637	20,831,931	40·55
1896..	845,574,352	7,075,850	4,173,501	58·98	1928..	8,761,579,512	54,826,851	25,544,664	46·57
1897..	868,522,217	7,157,661	4,701,833	65·69	1929..	9,431,169,594	56,112,457	30,209,839	53·84
1898..	895,394,107	7,350,131	4,784,487	65·09	1930[1].	9,608,465,726	52,676,443	30,398,365	57·71
1899..	936,869,668	7,910,492	5,182,038	65·51					
1900..	992,332,360	8,331,948	7,774,293	93·31	**Totals**	—	**1,123,609,237**	**627,974,485**	**55·89**

[1] Figures for 1930 are subject to revision.

2.—Fire Insurance Business Transacted in Canada, by Companies, 1929.

Company.	Gross Amount of Risks Taken during Year.	Premiums Charged thereon.	Rate of Premiums per cent of Risks.	Net Cash Received for Premiums.	Net Cash Paid for Losses.	Percentage of Losses Paid to Premiums Received.
Canadian Companies.	$	$	p c.	$	$	p.c.
Acadia	57,970,994	682,643	1·18	230,635	105,438	45·72
Antigonish	325,650	3,454	1·06	3,454	123	35·61
Beaver	20,028,252	168,404	·84	37,211	12,375	33·26
British America	74,190,288	698,812	·94	484,727	261,755	54·00
British Canadian	17,959,918	204,076	1·14	125,889	56,278	44·70
British Colonial	50,374,752	618,171	1·23	346,826	205,697	59·31
British Empire	20,552,755	256,991	1·25	164,165	85,635	52·16
British Northwestern	55,027,384	335,521	·61	194,003	109,932	56·67
Canada Accident and Fire	51,450,885	466,380	·91	227,530	111,475	48·99
Canada National	16,999,574	220,205	1·30	133,122	61,491	46·19
Canada Security	35,128,219	351,848	1·00	169,628	99,261	58·52
Canadian Fire	83,281,061	850,807	1·02	370,324	193,478	52·25
Canadian General	26,672,594	239,064	·90	125,297	26,107	20·84
Canadian Indemnity	35,902,525	378,583	1·05	184,635	87,213	47·24
Canadian Surety	407,325	2,376	·58	1,158	None	–
Casualty Company	7,327,642	57,093	·78	34,706	7,553	21·76
Commerce Mutual	7,913,424	576,286	7·28	218,426	78,606	35·99
Cumberland	316,910	5,802	1·83	5,695	4,487	78·80
Dominion Fire	51,890,553	495,583	·96	295,029	1,526	39·84
Dominion of Canada General	49,634,773	374,937	·76	191,426	64,807	33·85
Ensign	11,710,353	122,969	1·05	74,265	28,424	38·27
Fire Insurance Co. of Canada	73,081,702	741,333	1·01	339,384	197,295	58·13
General Accident of Canada	22,461,390	205,366	·91	95,387	42,605	44·67
Globe Indemnity	64,458,258	490,823	·76	134,845	68,459	50·77
Grain	259,354,109	385,927	·15	343,726	173,844	50·57
Guardian Insurance	40,142,771	293,960	·73	82,916	38,178	46·04
Halifax	52,933,259	516,721	·98	158,776	57,533	36·24
Hudson Bay	107,556,908	754,375	·70	210,384	96,090	45·67
Imperial Guarantee	8,886,287	91,647	1·03	48,815	26,306	53·89
Imperial Insurance	41,106,099	339,147	·83	149,279	72,438	48·53
Kings Mutual	2,862,575	43,068	1·50	41,361	24,644	59·58
Laurentian	15,512,588	211,865	1·37	81,420	60,631	74·47
Liverpool—Manitoba	81,113,820	682,290	·84	299,668	152,131	50·77
London and Lancashire Gtee	6,415,514	67,149	1·05	17,806	5,872	32·98
London-Canada	33,713,407	312,799	·93	181,255	87,155	48·08
Mercantile	50,600,757	310,486	·61	143,883	54,655	37·99
Merchants and Employers	76,718	658	·86	653	None	–
Mount Royal	74,957,806	858,411	1·15	430,034	253,622	58·52
National Liverpool	None	None	–	None	None	–
North Empire	62,864,531	623,763	·99	177,972	87,453	49·14
North West	22,308,552	214,201	·96	133,406	67,448	50·56
Occidental	53,797,039	501,274	·93	247,399	114,282	46·19
Pacific Coast	44,986,462	335,246	·75	126,306	79,808	63·19
Pictou County	952,500	7,487	·79	7,420	8,869	119·53
Pioneer	18,799,481	199,990	1·06	83,420	47,182	56·56
Quebec	52,109,910	443,434	·83	192,617	79,242	41·14
Reliance	24,268,694	192,727	·79	85,340	31,334	36·72
Scottish Canadian	24,942,699	214,263	·86	82,168	43,396	52·81
Trans-Canada	15,052,084	138,329	·92	86,591	39,806	45·97
Wawanesa	69,176,030	1,237,363	1·79	795,082	428,690	53·92
Western	123,961,431	1,023,442	·83	679,401	356,236	52·43
Totals	**2,123,519,212**	**18,547,549**	**·87**	**9,074,864**	**4,512,865**	**49·73**
British Companies.						
Alliance	75,456,459	539,509	·71	488,785	225,595	46·15
Anglo-Scottish	46,112,646	356,573	·77	174,572	98,119	56·21
Atlas	128,602,585	962,050	·75	766,203	379,318	49·51
Bankers and Traders	16,038,651	162,051	1·01	116,413	41,690	35·81
British and European	12,915,203	116,036	·90	73,764	37,254	50·50
British Crown	68,823,325	508,186	·74	394,421	277,616	70·39
British General	31,337,090	226,533	·72	119,801	60,212	50·26
British Law	19,502,779	136,036	·70	90,845	32,865	36·18
British Oak	30,752,601	243,867	·79	191,270	103,928	54·34
British Traders	53,711,398	288,779	·54	216,919	149,259	68·81
Caledonian	59,039,092	535,325	·91	374,223	231,742	61·93
Car and General	61,369,475	368,883	·60	212,831	108,913	51·17
Central	36,337,693	299,757	·82	212,432	89,226	42·00

2.—Fire Insurance Business Transacted in Canada, by Companies, 1929—continued.

Company.	Gross Amount of Risks Taken during Year.	Premiums Charged thereon.	Rate of Premiums per cent of Risks.	Net Cash Received for Premiums.	Net Cash Paid for Losses.	Percentage of Losses Paid to Premiums Received.
British Companies— concluded.	$	$	p.c	$	$	p.c.
Century	75,038,261	537,105	·72	308,852	168,112	54·67
China	3,574,594	19,347	·54	15,343	4,063	26·48
Commercial Union	133,049,042	1,067,038	·80	813,557	442,101	54·34
Cornhill	32,375,870	258,792	·80	223,981	108,349	48·37
Eagle Star	91,949,378	583,664	·63	453,004	241,835	53·38
Employers' Liability	153,214,025	1,027,828	·67	758,879	415,985	54·82
Essex and Suffolk	34,312,304	225,141	·66	90,301	36,391	40·30
Federated British	10,591,571	118,997	1·12	90,801	57,951	63·82
General Accident Fire and Life	72,263,100	465,318	·64	376,653	182,275	48·39
Guardian Assurance	187,292,462	1,685,158	·90	1,428,708	839,553	58·76
Guildhall	19,427,837	150,432	·77	120,276	63,287	52·62
Law Union and Rock	51,646,209	487,841	·94	402,341	230,761	57·35
Legal and General	2,732,210	17,828	·65	15,862	2,981	18·79
Liverpool and London and Globe	263,097,109	2,088,512	·79	1,394,514	750,770	53·84
Local Government	17,658,970	164,817	·93	84,179	41,709	49·55
London and Lancashire Ins.	211,574,209	1,663,691	·79	1,356,572	824,251	60·76
London and Provincial	6,324,137	47,468	·75	36,309	11,534	31·77
London and Scottish	27,050,690	169,444	·62	116,752	67,603	57·90
London Assurance	78,795,639	641,406	·81	530,382	316,500	59·63
London Guarantee	84,544,021	797,634	·94	371,988	213,255	57·33
Marine	None	None	–	None	None	–
Merchants Marine	51,353,057	305,450	·59	207,035	83,777	40·47
Motor Union	18,756,601	154,015	·82	120,491	71,246	59·13
National Provincial	28,899,227	223,344	·77	157,174	90,472	57·56
North British	189,525,199	1,482,060	·78	1,094,842	646,966	59·09
Northern Assurance	144,052,651	985,978	·68	752,605	431,190	57·29
Norwich Union	156,630,786	1,429,136	·91	1,066,325	596,952	55·98
Ocean and Accident Guarantee	74,000,900	651,120	·88	477,405	293,167	61 41
Palatine	64,433,082	492,707	·76	346,731	154,168	44·46
Patriotic	33,632,912	221,188	·66	162,423	66,065	40·67
Pearl	18,391,132	147,529	·80	119,207	29,053	24·37
Phœnix of London	273,237,567	2,271,375	·83	1,508,782	922,884	61·17
Planet	23,465,656	172,345	·73	110,518	67,987	61·52
Provincial	36,539,087	379,017	1·04	319,793	136,373	42·64
Prudential	103,722,000	695,565	·67	574,156	283,772	49·42
Queensland	38,348,319	353,280	·92	235,729	101,476	43·05
Railway Passengers	9,347,131	67,267	·72	45,773	4,583	10·01
Royal Exchange	137,277,379	997,654	·73	745,479	407,859	54·71
Royal Insurance	597,258,269	4,395,316	·74	2,148,915	1,001,466	46·60
Royal Scottish	43,740,555	273,906	·63	185,487	77,424	41·74
Scottish Metropolitan	46,106,388	334,970	·73	233,091	123,252	52·88
Scottish Union	55,494,559	467,224	·84	398,102	170,799	42·90
Sea	33,123,491	235,489	·71	186,557	100,424	53·83
Southern	508,900	6,285	1·23	3,407	23	·68
State Assurance	24,611,638	152,011	·62	114,209	41,876	36·67
Sun Assurance	146,607,136	1,127,214	·77	843,730	487,244	57·75
Union Assurance	94,786,092	741,720	·78	522,087	308,118	59·02
Union of Canton	77,980,233	530,576	·68	385,044	228,788	59·42
Union Marine	None	None	–	None	None	–
United British	23,208,998	169,370	·73	132,204	92,987	70·34
Westminster	None	None	–	None	None	·77
World Marine	31,526,549	148,640	·47	108,017	72,597	67·21
Yangtsze	15,413,329	140,986	·91	110,242	103,156	93·57
Yorkshire	51,737,291	470,793	·91	362,778	186,242	51·34
Totals	**4,840,226,749**	**37,184,576**	**·77**	**26,200,071**	**14,237,389**	**54.34**
Foreign Companies.						
Ætna	91,881,121	605,944	·66	525,734	297,461	56·58
Agricultural	18,112,618	101,458	·56	70,007	54,387	77·69
Alliance Insurance	60,186,259	252,242	·42	145,415	72,708	50·00
American Alliance	1,842,861	23,670	1·28	19,443	4,813	24·75
American Central	20,263,200	236,507	1·17	144,595	89,723	62·05
American Colony	7,768,516	59,065	·76	52,059	15,964	30·67
American Equitable	12,959,583	129,252	1·00	113,366	70,739	62·40

2.—Fire Insurance Business Transacted in Canada, by Companies, 1929—continued.

Company.	Gross Amount of Risks Taken during Year.	Premiums Charged thereon.	Rate of Premiums per cent of Risks.	Net Cash Received for Premiums.	Net Cash Paid for Losses.	Percentage of Losses Paid to Premiums Received.
Foreign Companies—continued.	$	$	p.c.	$	$	p.c.
American Exchange	7,684,500	26,372	·34	23,601	7,197	30·50
American Home Fire	1,937,221	17,359	·90	16,149	200	1·24
American Insurance	27,752,548	188,439	·43	117,598	52,124	44·32
American Reserve	18,053,733	122,864	·68	64,365	42.850	66·57
Assecuranz Union	None	None	–	None	None	–
Automobile	None	None	–	None	None	–
Baloise	13,560,307	135,824	1·00	105,078	59,061	56·21
Boston	22,327,373	155,729	·70	108,344	51,812	47·82
Caledonian-American	11,736,222	119,682	1·02	55.680	23,756	42·67
California	21,417,601	178,830	·83	135,338	110,582	81·71
Central Manufacturers	4,652,739	61,571	1·32	50,198	24,133	48·08
Citizens	21,219,842	162,276	·76	77,672	57,270	73·73
City of New York	15,426,443	109,883	·71	None	None	–
Columbia	17,072,126	168,495	·99	58,141	23,680	40·73
Commercial Union of N.Y.	2,254,644	27,960	1·24	16,748	9,681	57·81
Connecticut	58,698,822	460,223	·78	222,858	108,863	48·85
Continental	84,465,892	725,579	·86	506,938	281,138	55·46
Equitable Fire and Marine	26,838,925	211,878	·79	44,572	21,773	48·85
Fidelity American	6,142,407	81,965	1·33	65,697	52,203	79·46
Fidelity-Phenix	80,963,157	670,230	·83	489,436	266,792	54·51
Fire Association of Phila.	85,889,141	712,205	·83	360,143	203,547	54·51
Fireman's Fund	31,744,852	235,903	·74	185,518	78,691	42·42
Firemen's Insurance	27,202,426	294,622	1·08	233,269	112 299	48·14
Fire Reassurance	27,158,470	197,538	·73	104,537	66,591	63·70
First American	18,024,494	149.371	·83	92,406	66,790	72·28
La Foncière	20,021,553	211,080	1·05	163,075	72,586	44·51
Franklin	29,144,447	259.301	·89	None	None	–
General of Paris	19,767,513	192,329	·97	121,168	80,953	66·81
General Insurance of America	31,543,812	252,605	·80	191,578	104,938	54·76
Girard	6,303,455	57,314	·91	40,117	27,036	67·39
Glens Falls	41,342,863	296,176	·72	193.623	111,298	57·48
Globe and Rutgers	172,555,120	1,162,438	·67	778,732	573,988	73·71
Granite State	3,111,579	21,953	·71	18,928	4,162	21·99
Great American	73,536,092	627,250	·85	468,201	252,449	53·92
Hanover	16,771,932	101,046	·60	80,141	19,405	24·21
Hardware Dealers	19,935,460	424,750	2·13	366,952	211,137	57·54
Hartford Fire	178,840,936	2,214,420	·68	1,041,616	554,675	53·25
Home	264,636,736	2,325,072	·88	1,881,786	1,011,738	53·76
Homestead Fire	2,942,095	24,147	·82	None	None	–
Imperial Assurance	40,844,094	356,525	·87	89,925	41,345	45·98
Independence	383,000	1,006	·26	1,006	None	–
Insurance Co. of North America	152,790,118	933,746	·61	717,710	331,859	46·24
Insurance Co. of State of Pa.	35,704,704	270.696	·76	166,310	118,056	70·99
La Salle	None	None	–	None	None	–
Lincoln	12,947,007	102,714	·79	66,107	49,741	75·24
Lumbermen's Insurance	14,756,908	141,032	·96	119,779	70,685	59·01
Lumbermen's Mutual Insurance	5,488,898	79,543	1·45	66,236	36,466	55·05
Maryland Insurance	19,562,938	141,060	·72	93,073	54,308	58·35
Mechanics and Traders	1,677,506	28,430	1·69	15,495	15,031	97·00
Merchants and Manufacturers	10,614,252	120,582	1·14	100,078	43,693	43·66
Merchants Fire	37,071,426	337.227	·91	290,627	131,841	45·36
Mercury	23,651,032	123,146	·52	84,826	27,425	32·33
Millers National	13,581,366	135,050	·99	119,957	61,778	51·50
Mill Owners Mutual	21,792,025	323.984	1·49	242,220	135,516	55·95
Milwaukee Mechanics	4.137,531	35,369	·85	24,617	9,494	38·57
Minnesota Fire	2,774,338	30,480	1·10	31,253	2,193	7·02
Minnesota Implement	19,935,460	424.750	2·13	366,952	211,138	57·54
National-Ben Franklin	32,688,616	361,729	1·11	281,790	178,956	63·51
National Fire of Hartford	85,503,843	676,929	·79	499.989	291,692	58·34
National Guaranty	19,435,135	276,990	1·43	236,735	129,844	54·85
National Union	25,064,715	166,512	·66	121,630	43,847	36·05
La Nationale	69,355,107	766,160	1·1	662,845	339,916	51·28
Newark	68,544,711	520,464	·76	130,086	70.474	54·17
New Brunswick	11,079,830	61,253	·55	None	None	–
New Hampshire	32,404,819	286,552	·88	190,841	107,838	56·51
New Jersey	16,527,375	113,375	·69	61,732	34,931	56·59

2.—Fire Insurance Business Transacted in Canada, by Companies, 1929—concluded.

Company.	Gross Amount of Risks Taken during Year.	Premiums Charged thereon.	Rate of Premiums per cent of Risks.	Net Cash Received for Premiums.	Net Cash Paid for Losses.	Percentage of Losses Paid to Premiums Received.
Foreign Companies— concluded.	$	$	p.c.	$	$	p.c.
New York Fire	4,334,288	21,977	·51	21,693	93	·43
New York Underwriters	68,232,629	525,655	·77	57,038	26,458	46·39
Niagara	55,114,687	413,593	·75	281,624	215,558	76·54
North River	30,328,195	202,339	·67	135,021	91,795	67·99
Northwestern Mutual	74,777,108	1,239,825	1·66	961,532	466,193	48·48
Northwestern National	35,624,606	397,706	1·12	259,915	124,165	47·77
Pacific	44,271,480	386,323	·87	317,315	165,204	52·06
Phenix of Paris	22,967,667	204,125	·89	121,387	76,273	62·83
Phœnix of Hartford	104,448,305	783,028	·75	369,307	180,401	48·85
Providence Washington	44,918,333	308,209	·69	164,027	113,476	69·18
Provident of Paris	465,721	6,691	1·44	5,990	2,800	46·74
Queen of America	271,124,861	2,058,869	·76	755,614	368,817	48·81
Republic	1,566,900	10,782	·69	10,248	32	·31
Retail Hardware	19,935,460	424,750	2·13	366,952	211,138	57·54
Rhode Island	13,136,116	65,260	·50	45,211	25,473	56·34
Rossia	45,918,073	344,691	·75	235,367	130,146	55·29
"Rossia" of Copenhagen	27,058,802	150,738	·56	83,744	62,097	74·15
St. Paul Fire and Marine	59,640,141	420,445	·70	277,379	152,702	55·05
Security	27,319,009	190,549	·70	113,269	79,305	70·01
Sentinel	18,736,244	119,811	·64	9,112	11,388	24·98
Springfield	77,424,594	561,167	·72	358,107	166,982	46·63
Stuyvesant	30,581,627	288,285	·94	239,966	127,166	52·99
Sussex	5,829,423	50,011	·86	43,474	7,549	17·36
Svea	14,044,098	33,165	·24	25,968	12,550	47·17
Tokio	16,981,854	123,213	·73	61,531	26,651	43·31
Travelers	None	None	–	None	None	–
L'Union of Paris	43,423,934	372,668	·86	286,947	166,606	58·06
United Mutual	9,110,876	138,225	1·52	91,242	40,257	44·12
United States Fire	68,115,691	500,082	·73	384,810	262,899	68·32
United States Merchants	None	None	–	None	None	–
Universal	22,591,168	148,711	·66	90,205	42,398	47·00
Westchester	43,821,050	313,670	·72	191,491	114,384	59·73
World Fire and Marine	21,498,874	172,602	·80	139,397	99,373	71·29
Totals	**3,827,350,294**	**31,585,286**	**·83**	**20,837,524**	**11,459,589**	**54·99**
Grand Totals	**10,791,696,165**	**87,317,411**	**·81**	**56,112,459**	**30,209,843**	**53·84**

3.—Assets of Canadian Companies Selling Fire Insurance, or Fire Insurance and other classes of Insurance, and Assets in Canada of Companies other than Canadian Transacting such Business in Canada, 1925-1929.

Item.	1925.	1926.	1927.	1928.	1929.
Canadian Companies.	$	$	$	$	$
Real estate	2,793,241	2,984,391	3,213,096	2,827,672	2,425,285
Loans on real estate	4,012,248	3,414,679	4,223,583	3,492,620	3,229,804
Stocks, bonds and debentures	26,887,124	30,485,388	34,129,480	40,093,447	46,724,485
Agents' balances and premiums outstanding	3,214,993	3,490,442	3,803,900	4,161,359	4,272,065
Cash on hand and in banks[1]	3,689,719	3,724,742	4,415,976	5,671,692	4,937,126
Interest and rents	541,488	587,756	511,184	491,439	531,186
Other assets	945,442	905,051	1,354,994	3,876,826	4,863,564
Totals, Assets	**42,084,255**	**45,592,449**	**51,652,213**	**60,615,055**	**66,983,515**
British Companies.					
Real estate	2,988,810	2,998,810	3,045,860	2,998,944	2,998,944
Loans on real estate	2,947,639	3,036,956	2,876,538	2,882,435	2,570,318
Stocks, bonds and debentures	39,085,486	39,184,015	40,732,091	41,684,149	43,887,793
Agents' balances and premiums outstanding	4,162,716	4,382,098	4,557,720	5,298,183	5,394,016
Cash on hand and in banks[1]	4,744,748	4,223,724	5,174,714	5,493,843	5,664,481
Interest and rents	346,800	340,774	333,437	330,155	329,998
Other assets in Canada	671,751	642,897	744,365	915,458	770,214
Totals, Assets in Canada	**54,947,951**	**54,869,274**	**57,464,725**	**59,603,167**	**61,615,764**

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[1] Or deposited with Government.

3.—Assets of Canadian Companies Selling Fire Insurance, or Fire Insurance and other classes of Insurance, and Assets in Canada of Companies other than Canadian Transacting such Business in Canada, 1925-1929—concluded.

Item.	1925.	1926.	1927.	1928.	1929.
Foreign Companies.					
Real estate	–	–	–	–	–
Loans on real estate	14,500	14,500	13,000	23,000	13,000
Stocks, bonds and debentures	26,010,419	27,184,299	28,785,813	29,292,566	31,244,947
Agents' balances and premiums outstanding	3,011,654	2,906,791	2,908,472	3,439,315	3,428,161
Cash on hand and in banks[1]	5,357,230	5,190,968	5,491,382	6,022,316	7,014,035
Interest and rents	258,853	277,624	296,850	301,816	328,536
Other assets in Canada	46,803	111,747	77,159	110,305	133,228
Total Assets in Canada	**34,699,460**	**35,685,929**	**37,572,676**	**39,189,318**	**42,161,907**
All Companies.					
Real estate	5,782,051	5,983,201	6,258,956	5,826,616	5,424,229
Loans on real estate	6,974,387	6,466,135	7,113,121	6,398,055	5,813,122
Stocks, bonds and debentures	91,983,029	96,853,702	103,647,384	111,070,162	121,857,224
Agents' balances and premiums outstanding	10,389,363	10,779,331	11,270,092	12,898,857	13,094,242
Cash on hand and in banks[1]	13,791,697	13,139,434	15,082,072	17,187,851	17,615,642
Interest and rents	1,147,141	1,206,154	1,141,471	1,123,410	1,189,720
Other assets in Canada	1,663,996	1,659,695	2,176,518	4,902,589	5,767,006
Total Assets in Canada	**131,731,666**	**136,087,652**	**146,689,614**	**159,407,540**	**170,761,185**

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[1] Or deposited with Government.

4. Liabilities of Canadian Companies Selling Fire Insurance, or Fire Insurance and other classes of Insurance, and Liabilities in Canada of Companies other than Canadian Transacting such Business in Canada, 1925-1929.

Item.	1925.	1926.	1927.	1928.	1929.
Canadian Companies.	$	$	$	$	$
Unsettled losses	3,165,733	3,451,325	3,939,126	4,484,577	5,074,467
Reserve of unearned premiums	11,653,192	12,669,558	13,699,112	14,090,785	15,578,583
Sundry items	4,452,170	4,619,584	5,095,002	5,828,080	6,122,091
Total Liabilities, not including Capital	**19,271,095**	**20,740,467**	**22,733,240**	**24,403,442**	**26,775,141**
Excess of assets over liabilities, excluding capital	22,813,160	24,851,981	28,918,973	36,211,613	40,208,374
Capital stock paid up	14,311,871	13,653,915	15,003,316	17,020,855	17,304,479
British Companies.					
Unsettled losses	2,589,335	2,911,182	3,379,385	4,354,948	5,639,411
Reserve of unearned premiums	17,858,096	18,955,408	19,457,735	20,742,422	21,901,257
Sundry items	1,222,290	1,310,328	1,495,409	1,548,825	1,606,263
Total Liabilities in Canada	**21,669,721**	**23,176,918**	**24,332,529**	**26,646,195**	**29,146,931**
Excess of assets over liabilities, excluding capital	33,278,230	31,632,356	33,132,196	32,956,975	32,468,833
Capital stock paid up	–	–	–	–	–
Foreign Companies.					
Unsettled losses	1,637,229	1,538,817	1,176,847	1,589,302	2,161,713
Reserve of unearned premiums	12,115,693	12,229,515	12,182,168	12,811,246	13,509,480
Sundry items	802,968	702,759	855,414	901,078	950,737
Total Liabilities in Canada	**14,555,899**	**14,471,091**	**14,214,429**	**15,301,626**	**16,621,930**
Excess of assets over liabilities, excluding capital	20,143,569	21,207,810	23,358,248	23,887,692	25,538,977
Capital stock paid up	–	–	–	–	–
All Companies.					
Unsettled losses	7,392,297	7,901,324	8,495,358	10,428,827	12,875,591
Reserve of unearned premiums	41,626,981	43,854,481	45,339,015	47,644,453	50,989,320
Sundry items	6,477,428	6,632,671	7,445,825	8,277,983	8,679,091
Total Liabilities in Canada, not including Capital	**55,496,706**	**58,388,476**	**61,280,198**	**66,351,263**	**72,544,002**
Excess of assets over liabilities, excluding capital	76,234,959	77,692,147	85,409,417	93,056,280	98,216,184
Capital stock paid up[1]	14,311,871	13,653,915	15,003,316	17,020,855	17,304,479

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[1] Canadian companies only.

5.—Income and Expenditure of Canadian Companies Selling Fire Insurance, or Fire Insurance and other classes of Insurance, and Income and Expenditure in Canada of Companies other than Canadian Transacting such Business in Canada, 1925-1929.

Item.	1925.	1926.	1927.	1928.	1929.
INCOME.	$	$	$	$	$
Canadian Companies.					
Net written premiums, fire and other insurance	20,338,906	21,558,094	23,270,427	26,403,345	29,535,545
Interest and dividends earned	1,605,890	1,790,416	1,944,324	2,234,407	2,755,933
Sundry items	1,648,965	2,766,588	3,661,198	7,107,357	3,974,197
Totals, Income	**23,593,761**	**26,115,098**	**28,875,949**	**35,745,109**	**36,265,675**
British Companies.[1]					
Net cash for premiums	32,177,959	34,066,853	35,291,010	38,947,220	40,058,966
Interest and dividends on stocks, etc.	1,781,280	1,780,317	1,772,275	1,827,283	1,814,056
Sundry items	645	15,808	5,698	1,301	149
Totals, Income	**33,959,884**	**35,862,978**	**37,068,983**	**40,775,804**	**41,873,171**
Foreign Companies.[1]					
Net premiums written	24,193,206	23,703,863	24,146,575	26,483,893	26,186,699
Interest and dividends earned, etc.	1,267,040	1,345,137	1,425,276	1,484,347	1,426,353
Sundry items	1,245	105	149	3,330	6,147
Totals, Income	**25,461,491**	**25,049,105**	**25,572,000**	**27,971,570**	**27,619,199**
EXPENDITURE.					
Canadian Companies.					
Incurred for losses	6,483,977	6,571,218	5,722,354	6,663,317	7,657,105
General expenses	5,654,651	6,413,729	6,032,664	7,971,270	8,121,625
On account of branches other than Fire or Life	7,407,522	8,838,138	10,312,567	11,924,618	13,585,866
Dividends or bonus to shareholders	793,114	829,380	1,193,634	1,292,586	1,491,558
Taxes	624,058	588,035	690,145	706,940	735,357
Totals, Expenditure	**20,967,149**[2]	**23,244,547**[2]	**23,953,781**[2]	**28,558,731**	**31,591,511**
Excess of income over expenditure	2,626,612	2,870,551	4,922,137	7,186,378	4,674,164
British Companies.[1]					
Incurred for losses	12,057,156	11,881,784	10,095,057	12,067,465	14,237,389
General expenses	9,017,645	9,455,705	9,402,303	9,817,151	10,579,134
On account of branches other than Fire or Life	7,415,287	8,244,434	11,205,796	13,174,461	12,639,292
Taxes	1,082,063	1,116,005	1,178,706	1,256,920	917,127
Totals, Expenditure	**29,572,151**	**30,697,928**	**31,881,862**	**36,315,997**	**38,372,942**
Excess of income over expenditure	4,387,733	5,165,050	5,187,121	4,459,807	3,500,229
Foreign Companies.[1]					
Incurred for losses	11,665,223	10,487,474	7,910,486	9,673,734	11,459,589
General expenses	6,748,047	6,770,930	6,761,904	7,222,292	7,758,349
On account of branches other than Fire or Life	2,925,412	3,543,059	5,522,964	7,678,034	5,003,936
Taxes	856,329	845,559	883,216	920,976	743,442
Totals, Expenditure	**22,896,953**	**22,392,262**	**21,863,853**[3]	**25,495,036**	**24,965,316**
Excess of income over expenditure	2,564,539	2,656,843	3,708,147	2,476,534	2,653,883

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[1] Income and expenditure in Canada.

[2] Including $3,827 profits returned to subscribers in n 1925, $4,047 in 1926, and $2,417 in 1927.

[3] Includes several small amounts of profits returned to subscribers.

6.—Amount of Net Premiums Written and Net Losses Incurred in Canada, by Provinces, by Canadian, British and Foreign Companies Transacting Fire Insurance Business, 1928 and 1929.

(Licensed re-insurance deducted.)

Province.	Canadian.		British.		Foreign.	
	Premiums.	Losses.	Premiums.	Losses.	Premiums.	Losses.
	$	$	$	$	$	$
1928.						
P.E. Island	38,113	8,431	134,704	46,593	80,801	37,161
Nova Scotia	407,523	255,399	943,441	531,376	860,052	534,485
New Brunswick	304,882	141,808	985,015	483,555	748,112	393,367
Quebec	2,390,846	1,054,555	6,321,207	3,184,286	5,331,052	2,512,836
Ontario	3,296,410	1,482,361	9,056,986	4,265,155	6,297,682	2,855,707
Manitoba	1,088,849	283,978	1,697,697	629,241	1,474,411	625,509
Saskatchewan	1,580,522	765,122	1,755,848	761,442	1,719,587	735,070
Alberta	1,101,649	571,794	1,840,742	1,214,765	1,740,519	1,083,388
British Columbia	907,584	298,268	2,858,531	951,054	2,206,334	896,212
Yukon	3,864	20,619	5,454	None	2,874	None
Totals[1]	**11,041,100**	**4,861,723**	**25,609,322**	**12,067,467**	**20,461,424**	**9,673,735**
1929.						
P.E. Island	38,085	36,184	150,844	156,121	74,760	213,781
Nova Scotia	469,824	250,657	1,009,134	515,282	985,654	430,201
New Brunswick	321,645	195,643	1,020,244	612,903	782,707	575,087
Quebec	2,456,735	1,213,100	6,426,982	3,241,195	5,322,927	2,604,162
Ontario	3,439,382	1,718,026	8,996,737	5,155,748	6,389,140	3,498,975
Manitoba	1,014,204	431,559	1,821,377	711,312	1,452,292	604,374
Saskatchewan	1,720,976	952,239	1,829,579	1,101,339	1,789,889	1,104,902
Alberta	1,173,139	650,150	1,907,954	1,163,088	1,804,928	1,160,943
British Columbia	915,089	391,278	2,970,324	1,580,279	2,196,079	1,266,763
Yukon	672	5,508	2,929	62	3,236	400
Totals[1]	**11,553,389**	**5,850,348**	**26,200,073**	**14,237,386**	**20,837,518**	**11,459,588**

[1] Totals include in many cases small items unapportioned by provinces.

Summary of Fire Insurance in Canada, 1929.—Of the total amount of fire insurance effected in Canada during each year, a part is sold by companies holding provincial licences and permits. Such companies generally confine their operations to the province from which they get authority to operate, but may be allowed, at the same time, to sell insurance in other provinces. The bulk of fire insurance business, however, is that done by Dominion licensees. Operations in 1929 are summarized in Table **7**. Business transacted by unlicensed companies is summarized in Table **8.**

7.—Dominion and Provincial Fire Insurance in Canada, 1929.

Item.	Net Insurance Written.	Net in Force at end of year.	Net Premiums Received.	Net Losses Paid.
	$	$	$	$
1. Dominion Licensees	10,791,095,165	9,431,169,954	56,112,457	30,209,839
2. Provincial Licensees—				
(a) Provincial Companies within province by which they are incorporated	532,743,822	1,305,123,764	5,400,527	3,625,556
(b) Provincial Companies within provinces other than those by which they are incorporated	27,105,895	19,633,483	153,932	124,713
Totals, Provincial Licensees	559,849,717	1,324,757,247	5,554,459	3,750,269
Grand Totals	**11,350,944,882**	**10,755,927,201**	**61,666,916**	**33,960,108**

8.—Fire Insurance Carried on Property in Canada in 1928, under Section 129 of the Insurance Act, 1917, by Companies, Associations or Underwriters not Licensed to Transact Business in Canada.

Amount by Classes of Insurers.

	$
Lloyd's Associations	123,697,831
Reciprocal Underwriters	130,756,445
Mutual Companies	538,994,179
Stock Companies	65,988,578
Total	**859,437,033**

Amount by Description of Properties Insured.

Lumber and Lumber Mills	26,057,354
Industrial Plants and Mercantile Establishments	818,421,116
Railway Property and Equipment	2,371,997
Miscellaneous	12,586,566
Total	**859,437,033**

Amount by Province.

			$
Prince Edward Island	49,775	Saskatchewan	69,967,032
Nova Scotia	12,012,359	Alberta	6,236,171
New Brunswick	26,217,806	British Columbia	24,121,760
Quebec	266,340,258	Yukon	66,900
Ontario	342,966,978		
Manitoba	18,216,158	**Total**	**859,437,033**[1]

[1] Includes $93,241,836 unapportioned by provinces.

Section 2.—Life Insurance.

An article descriptive of the growth of life insurance in Canada, contributed by A. D. Watson, Esq., of the Department of Insurance, Ottawa, appeared on pp. 860-864 of the Canada Year Book, 1925.

Life Insurance Statistics.—The business of life insurance was carried on in Canada in 1929 by 41 active Dominion companies, including 28 Canadian, 5 British and 8 foreign companies. In addition there were 6 British and 5 foreign companies licensed to write insurance but which had ceased to write new insurance, while 4 other British and 4 other foreign companies were authorized under the Act to transact business in connection with policies written prior to Mar. 31, 1878. One other foreign company was licensed to transact business in 1926, but has written no life insurance business in Canada except one group policy which was written in 1928 but lapsed before the close of the year.

As shown by the historical statistics of Table 9, the life insurance business in Canada has expanded from very small beginnings, the total net life insurance in force in all companies operating under Dominion licences in 1869 being only $35,680,082 while in 1930 it was $6,492,496,222,[2] the amount per head of the estimated population of Canada having more than doubled since 1920—an evidence of the general recognition of the fact that, in view of the high cost of living, a larger amount of life insurance is necessary for the adequate protection of dependants. Notable also from these historical statistics is the fact that in this field the British companies, which were the leaders in 1869, have fallen far behind the Canadian and the foreign companies. The total net amount of new insurance effected during the year 1929 was $978,141,485[1], as compared with $918,742,064 in 1928, $838,475,057 in 1927, $797,940,009 in 1926, and $712,091,889 in 1925, while the premiums paid were $210,728,479, as compared with $192,945,783 in 1928, $173,732,359 in 1927, $159,872,965 in 1926 and $145,480,207 in 1925. The total net assurance premiums paid in 1930 were $220,554,056.[2]

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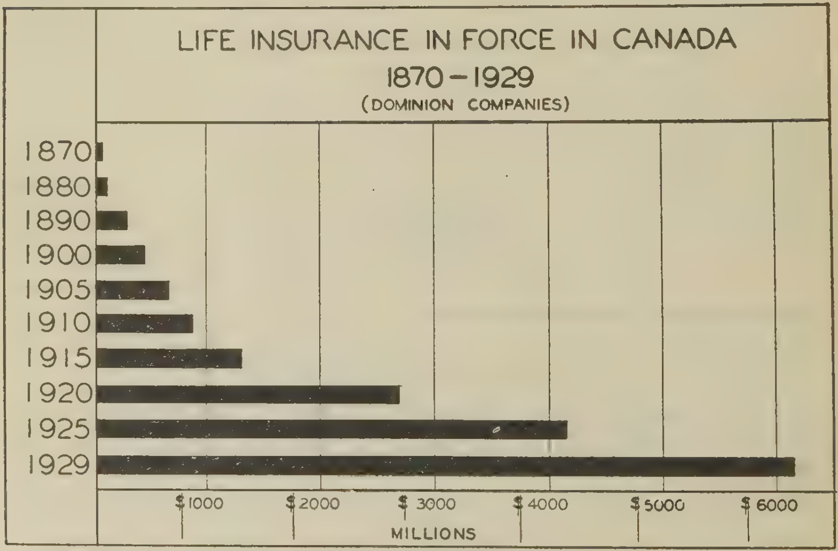
[2] Preliminary figures. This total does not include nearly $187,000,000 of fraternal insurance.

The following diagram shows the rapid increase of life insurance in force in companies operating under Dominion licences between 1870 and 1929. Preliminary figures for 1930 show an increase of $335,234,015 in the year, or a larger amount than the total in force as late as 1896.



In Table **10** detailed statistics are given of the business of Canadian, British and foreign companies respectively, by companies, in 1929, while Table **11** is a summary showing the business of Canadian, British and foreign companies for the past 5 years. Table **12** shows the ordinary and industrial policies in force and effected during the year ended Dec. 31, 1929. Table **13** gives the insurance death-rate by classes of companies, and Tables **14**, **15**, and **16** show respectively the assets, liabilities, and cash income and expenditure of Canadian and other life insurance companies for the years 1925 to 1929. Statistics of Dominion fraternal insurance are given in Table **17** and of Dominion and provincial insurance combined in Table **18**, which shows that on Dec. 31, 1929, the total life insurance in force in Canada was $6,548,251,744.

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[1] In 1930 the new insurance effected was $884,888,498 according to preliminary figures.
[2] Preliminary figures.

9.—Life Insurance In Force and Effected in Canada, by Years, 1869-1930.[1]

Year.	Net Amount In Force.				Insurance In Force per Head of Estimated Population.	Net Amount of New Insurance Effected during Year.
	Canadian Companies.	British Companies.	Foreign Companies.	Total.		
	$	$	$	$	$	$
1869	5,476,358	16,318,475	13,885,249	35,680,082	10·45	12,854,132
1870	6,404,437	17,391,922	18,898,353	42,694,712	12·36	12,194,696
1871	8,711,111	18,405,325	18,709,499	45,825,935	13·15	13,332,626
1872	13,070,811	19,258,166	34,905,707	67,234,684	18·62	21,070,101
1873	15,777,197	18,862,191	42,861,508	77,500,896	21·13	21,053,618
1874	19,634,319	19,863,867	46,218,139	85,716,325	22·41	19,108,221
1875	21,957,296	19,455,607	43,596,361	85,009,264	21·87	15,074,258
1876	24,649,284	18,873,173	40,728,461	84,250,918	21·33	13,890,127
1877	26,870,224	19,349,201	39,468,475	85,687,903	21·35	13,534,667
1878	28,656,556	20 078,533	36,016,848	84,751,937	20·78	12,169,755
1879	33,246,543	19,410,829	33,616,330	86,273,702	20·81	11,354,224
1880	37,838,518	19,789,863	33,643,745	91,272,126	21·65	13,906,887
1881	46,041,591	20,983,092	36,266,249	103,290,932	23·88	17,618,011
1882	53,855,051	22,329,368	38,857,629	115,042,048	26·24	20,112,755
1883	59,213,609	23,511,712	41,471,554	124,196,875	28·02	21,572,960
1884	66,519,958	24,317,172	44,616,596	135,453,726	30·20	23,303,412
1885	74,591,139	25,930,272	49,440,735	149,962,146	33·04	26,767,488
1886	88,181,859	27,225,607	55,908,230	171,315,696	37·33	34,800,598
1887	101,796,754	28,163,329	61,734,187	191,694,270	41·33	37,381,810
1888	114,034,279	30,003,210	67,724,094	211,761,583	45·17	40,923,529
1889	125,125,692	30,488,618	76,349,392	231,963,702	48·94	43,912,187
1890	135,218,990	31,613,730	81,591,847	248,424,567	51·83	39,802,956
1891	143,368,817	32,407,937	85,698,475	261,475,229	54·10	37,609,287
1892	154,709,077	33,692,706	90,708,482	279,110,265	57·09	44,062,440
1893	167,475,872	33,543,884	94,602,966	295,622,722	59·89	44,802,847
1894	177,511,846	33,911,885	96,737,705	308,161,436	62·96	49,111,010
1895	188,326,057	34,341,172	96,590,352	319,257,581	63·42	44,101,898
1896	195,303,042	34,837,448	97,660,009	327,800,499	64·45	42,293,322
1897	208,655,459	35,293,134	100,063,684	344,012,277	66·90	47,710,165
1898	226,209,636	36,606,195	105,708,154	368,523,985	70·88	54,387,303
1899	252,201,516	38,025,948	113,943,209	404,170,673	76·85	66,184,063
1900	267,151,086	39,485,344	124,433,416	431,069,846	81·00	67,729,115
1901	284,684,621	40,216,186	138,868,227	463,769,034	86·34	72,854,859
1902	308,202,596	41,556,245	159,053,464	508,812,305	91·98	79,638,914
1903	335,638,940	42,127,260	170,676,800	548,443,000	96·99	90,732,415
1904	364,640,166	42,608,738	180,631,886	587,880,790	100·92	97,617,402
1905	397,946,902	43,809,211	188,578,127	630,334,240	105·20	104,719,585
1906	420,864,847	45,655,951	189,740,102	656,260,900	106·35	93,722,510
1907	450,573,724	46,462,314	188,487,447	685,523 485	108·78	88,784,250
1908	480,266,931	46,161,957	193,087,126	719,516,014	110·85	98,644,410
1909	515,415,437	46,985,192	217,956,351	780,356,980	116·56	130,122,008
1910	565,667,110	47,816,775	242,629,174	856,113,059	123·77	150,785,305
1911	626,770,154	50,919,675	272,530,942	950,220,771	131·85	173,341,738
1912	706,656,117	54,537,725	309,114,827	1,070,308,669	145·32	212,772,151
1913	750,637,902	58,176,795	359,775,330	1,168,590,027	155·25	225,606,787
1914	794,520,423	60,770,658	386,869,397	1,242,160,478	161·47	212,977,464
1915	829,972,809	58,087,018	423,556,850	1,311,616,677	166·83	218,205,427
1916	895,528,435	59,151,931	467,499,266	1,422,179,632	176·99	227,210,162
1917	996,699,282	58,617,506	529,725,775	1,585,042,563	193·77	277,532,095
1918	1,105,503,447	60,296,113	619,261,713	1,785,061,273	214·33	307,279,759
1919	1,362,631,562	66,908,064	758,297,691	2,187,837,317	258·04	517,863,639
1920	1,664,348,605	76,883,090	915,793,798	2,657,025,493	307·83	630,110,900
1921	1,860,026,952	84,940,938	989,875,958	2,934,843,848	333·94	514,654,111
1922	2,013,722,848	93,791,180	1,063,874,968	3,171,388,996	355·99	502,279,333
1923	2,187,434,147	98,023,020	1,148,051,506	3,433,508,673	380·31	548,640,800
1924	2,413,853,480	103,519,236	1,246,623,756	3,763,996,472	411·32	615,372,723
1925	2,672,989,676	108,565,248	1,377,464,924	4,159,019,848	448·72	712,091,889
1926	2,979,946,768	111,375,336	1,518,874,230	4,610,196,334	490·78	797,940,009
1927	3,277,050,348	113,883,716	1,653,474,770	5,044,408,834	522·30	838,475,057
1928	3,671,325,188	115,340,577	1,820,979,858	5,607,645,623	580·62	918,742,064
1929	4,051,612,499	116,545,637	1,989,104,071	6,157,262,207	619·79	978,141,485
1930[2]	4,319,430,221	117,494,846	2,055,571,155	6,492,496,222	653·50	884,888,498

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[1] Figures do not include insurance in force and effected by Fraternal Societies operating under Dominion charters. The amount of insurance in force by such companies amounted to $186,640,119 in 1930. Corresponding figures for the years 1925-29 are given in Table 17, pages 942-3.

[2] Preliminary figures.

10.—Life Insurance In Force and Effected in Canada, by Companies, 1929.

Company.	Policies Issued.		Policies In Force.		Net Premium Income.	Net Amount of Policies become Claims.[1]
	No.	Net Amount.	No.	Net Amount.		
		$		$	$	$
Canadian Companies—						
Canada	14,025	47,624,247	131,999	409,273,647	14,461,662	4,502,066
Capital	2,006	4,009,110	10,942	18,265,491	538,194	143,620
Columbia	74	105,000	158	204,500	1,653	–
Commercial	859	1,687,817	5,062	10,287,541	331,703	71,883
Confederation	11,230	24,070,179	103,026	200,035,406	7,191,114	1,907,065
Continental	3,261	5,698,644	23,410	37,334,598	1,253,050	314,911
Crown	8,368	19,026,849	47,832	98,287,645	2,860,470	701,020
Dominion	7,999	19,440,250	57,691	125,478,056	4,289,583	922,868
Dominion of Canada	717	1,391,939	3,416	5,815,833	164,384	14,158
T. Eaton	3,198	6,078,248	10,824	20,626,829	703,921	74,690
Excelsior	5,109	10,750,511	46,288	87,236,414	2,859,667	652,159
Great West	24,525	60,213,985	228,830	513,496,212	17,525,367	3,228,760
Imperial	8,864	23,787,305	86,935	207,723,122	7,534,963	1,380,971
London	115,995	107,066,232	517,723	407,271,631	11,773,367	2,230,881
Manufacturers	17,646	36,743,073	127,663	263,851,338	9,056,548	1,887,458
Maritime	685	1,438,773	2,455	4,621,350	124,684	11,000
Monarch	4,146	7,339,513	32,063	59,255,559	1,744,417	253,667
Montreal	4,878	7,940,039	18,888	35,261,924	1,135,014	197,517
Mutual of Canada	21,369	56,862,847	187,676	428,924,023	16,562,434	3,579,758
National of Canada	4,781	10,391,575	27,737	54,444,072	1,711,241	339,609
North American	8,183	19,366,757	81,826	164,239,884	5,760,628	1,581,262
Northern	8,443	13,934,407	36,062	58,921,029	1,857,785	499,182
Royal Guardians	1,918	994,604	7,545	4,403,142	145,553	92,769
Saskatchewan	1,273	1,705,947	8,481	12,825,917	362,189	69,453
Sauvegarde	3,442	4,819,868	20,466	28,562,107	872,977	240,582
Sovereign	2,023	3,632,994	14,922	28,631,750	911,790	123,700
Sun	44,125	147,700,213	252,964	757,278,369	25,351,173	6,752,764
Western	847	1,380,720	5,398	9,055,110	233,956	15,000
Totals	**329,989**	**645,201,646**	**2,098,282**	**4,051,612,499**	**137,319,487**	**31,788,773**
British Companies—						
Commercial Union	3	6,000	107	483,343	13,028	10,000
Edinburgh[2]	–	–	2	2,899	19	–
Gresham[2]	–	–	1,389	2,980,105	100,031	77,980
Life Association of Scotland[2]	–	–	32	55,486	116	2,360
Liverpool and London and Globe[2]	–	–	90	165,793	4,949	2,796
London and Scottish	488	1,091,836	7,725	17,841,516	674,243	493,470
Mutual Life and Citizens (Australia)	14,978	5,756,469	109,354	32,336,420	1,251,380	189,703
North British and Mercantile[2]	–	–	337	1,365,921	54,574	165,505
Norwich Union[2]	–	–	39	50,229	1,113	–
Phœnix of London	58	291,500	1,893	7,213,828	213,693	219,237
Royal	355	1,598,063	5,870	24,269,620	772,836	222,866
Scottish Amicable[2]	–	–	7	11,704	180	–
Scottish Provident[2]	–	–	1	2,531	31	–
Standard	827	2,394,907	10,925	29,705,918	912,874	824,746
Star[2]	–	–	32	60,324	997	9,160
Totals	**16,709**	**11,138,775**	**137,803**	**116,545,637**	**4,000,064**	**2,217,823**
Foreign Companies—						
Ætna	1,564	19,375,626	16,894	103,404,554	1,934,304	886,749
Connecticut General	–	–	–	–	–	–
Connecticut Mutual[2]	–	–	3	4,742	65	–
Equitable	9	23,000	9,673	26,731,054	837,655	509,301
Guardian	3	16,000	45	181,074	8,462	–
Metropolitan	366,617	161,951,039	2,739,358	947,703,863	35,391,031	6,826,600
Mutual of New York	3,222	8,034,492	29,729	80,478,728	2,972,822	858,033
National of United States[2]	–	–	11	5,916	8	3,836
New York	8,250	19,859,300	83,830	191,309,147	6,675,193	1,691,214
Northwestern Mutual[2]	–	–	20	17,373	59	555
Occidental	194	906,500	4,203	9,329,310	212,742	92,000
Phœnix Mutual[2]	–	–	67	62,640	353	6,133
Provident Savings[2]	–	–	232	357,944	7,179	19,299
Prudential	231,277	90,438,650	1,445,707	480,459,559	17,857,444	3,262,336
State	8	74,709	352	1,589,586	25,718	25,192
Travelers of Hartford	4,092	20,625,248	30,344	138,999,853	3,198,235	960,022
Union Mutual	232	445,500	3,310	7,787,234	273,327	116,068
United States	13	51,000	236	711,494	14,331	14,673
Totals	**615,481**	**321,801,064**	**4,364,004**	**1,989,104,071**	**69,408,928**	**15,272,011**

For footnotes see end of table, p. 937.

10.—Life Insurance in Force and Effected in Canada, by Companies, 1929—concluded.

Company.	Policies Issued.		Policies In Force.		Net Premium Income.	Net Amount of Policies become Claims.[1]
	No.	Net Amount.	No.	Net Amount.		
SUMMARY.		$		$	$	$
Canadian companies........	329,989	645,201,646	2,098,282	4,051,612,499	137,319,487	31,788,773
British companies...........	16,709	11,138,775	137,803	116,545 637	4,000,064	2,217,823
Foreign companies..........	615,481	321,801,064	4,364,004	1,989,104,071	69,408,928	15,272,011
Grand Totals......	**962,179**	**978,141,485**	**6,600,089**	**6,157,262,207**	**210,728,479**	**49,278,607**

[1] Including matured endowments. [2] Ceased transacting new business in Canada.

11.—Progress of Life Insurance in Canada, 1925-1929.

Item.		1925.	1926.	1927.	1928.	1929.
Canadian Companies[1]—						
Policies new and taken up..........	No.	249,791	277,405	297,883	317,735	329,989
Policies in force at end of year.....	“	1,562,930	1,692,660	1,816,796	1,960,429	2,098,282
Policies become claims............	“	17,039	16,260	17,484	19,854	22,608
Net amount of policies new and taken up..........................	$	443,895,626	515,328,711	544,385,411	606,902,108	645,201,646
Net amount of policies in force.....	$	2,672,989,676	2,979,946,768	3,277,050,348	3,671,325,188	4,051,612,499
Net amount of policies become claims..........................	$	19,493,133	21,464,091	22,642,370	26,192,910	31,788,773
Amount of premiums in year.......	$	93,599,325	102,882,156	111,644,539	124,654,036	137,319,487
Claims paid[2].......................	$	19,430,607	21,189,288	23,193,977	25,270,528	33,221,451
Unsettled claims—						
Not resisted.....................	$	1,902,002	2.216,541	2,038,459	3,426,966	2,871.841
Resisted.........................	$	87,769	55,760	92,684	109,120	54,017
British Companies—						
Policies new and taken up..........	No.	50,886	45,105	34,335	20,359	16,709
Policies in force at end of year.....	“	121,857	132,095	134,145	134,250	137,803
Policies become claims............	“	1,327	1,358	1,456	1,502	1,467
Net amount of policies new and taken up..........................	$	17,118,928	16,042,800	15,414,004	12,312,500	11,138,775
Net amount of policies in force....	$	108,565,248	111,375,336	113,883,716	115,340,577	116,545,637
Net amount of policies become claims..........................	$	1,728,690	1,641,861	2,033,571	2,111,035	2,217,823
Amount of premiums in year.......	$	4,121,230	3,888,776	3,963,695	4,036,669	4,000,064
Claims paid[2].......................	$	1,767,076	1,663,977	1,867,679	2,095,434	2,030,705
Unsettled claims—						
Not resisted.....................	$	221,074	183,017	262.875	220,166	381,383
Resisted.........................	$	15,770	4,052	-	-	-
Foreign Companies—						
Policies new and taken up..........	No.	616,309	574,511	582,645	613,851	615,481
Policies in force at end of year.....	“	3,506,814	3,729,660	3,934,511	4,162,450	4,364,004
Policies become claims............	“	35,425	39.362	41,573	43,178	47,553
Net amount of policies new and taken up..........................	$	251,077,335	266,568,498	278,675,642	299,527,456	321,801,064
Net amount of policies in force.....	$	1,377,464,924	1,518,874,230	1,653,474,770	1,820,979,858	1,989,104,071
Net amount of policies become claims..........................	$	10,871,029	11,536,574	11,889,499	13,384,031	15,272,011
Amount of premiums in year.......	$	47,759,652	53,102,033	58,124,125	64,255,078	69,408,928
Claims paid[2].......................	$	10,903,544	11,629,907	12,307,558	13,707,461	16,042,494
Unsettled claims—						
Not resisted.....................	$	708,432	915,776	861,498	1,173,636	971,364
Resisted.........................	$	33,864	75,362	59,493	61,774	53,491
All Companies—						
Policies new and taken up..........	No.	916,986	897,021	914,863	951,945	962,179
Policies in force at end of year.....	“	5,191,601	5,554,415	5,885,452	6,257,129	6,600,089
Policies become claims............	“	53,791	56,980	60,513	64,534	71,628
Net amount of policies new and taken up..........................	$	712,091,889	797,940,009	838,475,057	918,742,064	978,141,485
Net amount of policies in force.....	$	4,159,019,848	4,610,196,334	5,044,408,834	5,607,645,623	6,157,262,207
Net amount of policies become claims..........................	$	32,092,852	34,642,526	36,565,440	41,687,976	49,278,607
Amount of premiums in year.......	$	145,480,207	159,872,965	173,732,359	192,945,783	210,728.479
Claims paid[2].......................	$	32,101.227	34,483,172	37,369.214	41,073,423	51,294,650
Unsettled claims—						
Not resisted.....................	$	2,831,508	3,315,334	3,162,832	4,820,768	4,224,588
Resisted.........................	$	137,403	135,174	152,177	170,894	107,508

[1] Figures of Canadian business only. [2] Including matured endowments.

12.—Ordinary and Industrial Life Insurance Policies In Force and Effected in Canada, 1929.

Type of Policy.	Newly Effected.			In Force.		
	Number.	Total Amount.	Average Amount of a Policy.	Number.	Total Amount.	Average Amount of a Policy.
		$	$	$	$	$
Ordinary policies—						
Canadian companies......	252,622	626,407,365	2,480	1,677,186	3,770,092,614	2,248
British companies.........	4,752	9,539,325	2,007	40,995	105,151,825	2,565
Foreign companies........	95,541	196,767,882	2,060	634,176	1,179,520,539	1,860
All Companies........	352,915	832,714,572	2,360	2,352,357	5,054,764,978	2,149
Industrial policies—						
Canadian companies......	103,324	54,026,307	523	419,483	141,064,405	336
British companies.........	12,244	2,487,839	203	96,808	15,417,748	159
Foreign companies........	531,631	129,178,435	243	3,729,387	665,921,124	179
All Companies........	647,199	185,692,581	287	4,245,678	822,403,277	194

13.—Insurance Death-Rate in Canada, 1926-1929.

Note.—Average death-rate of insured persons for all companies in the 26 years 1901-1926 was 8·9 per 1000.

Company.	1926.			1927.		
	Number of Policies Exposed to Risk.	Number of Policies Terminated by Death.	Death—rate per 1,000.	Number of Policies Exposed to Risk.	Number of Policies Terminated by Death.	Death—rate per 1,000.
All companies, ordinary.....	1,826,576	10,429	5·7	1,960,774	10,663	5·4
All companies, industrial....	3,563,860	26,156	7·3	3,774,650	27,748	7·4
Fraternal benefit societies...	222,662	2,827	12·7	225,003	2,907	12·9
Totals..........	**5,613,098**	**39,412**	**7·0**	**5,960,427**	**41,318**	**6·9**
	1928.			1929.		
All companies, ordinary.....	2,122,065	11,849	5·6	2,282,497	13,796	6·0
All companies, industrial....	3,970,847	30,301	7·6	4,167,146	31,947	7·7
Fraternal benefit societies...	221,269	3,106	14·0	220,450	3,195	14·5
Totals..........	**6,314,181**	**45,256**	**7·2**	**6,670,093**	**48,938**	**7·3**

14.—Assets of Canadian Life Companies and Assets in Canada of Life Companies other than Canadian Companies, 1925-1929.

NOTE.—Certain British companies transacting fire insurance in Canada transact also life insurance in Canada, and inasmuch as a separation of assets has not been made between these two classes, their assets in Canada are not included here, but are included in the assets of British companies shown in Table 3 on p. 929.

Item.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$
Canadian Companies—					
Real estate	26,230,336	27,542,604	27,415,468	29,876,943	34,939,006
Loans on real estate	193,257,582	217,754,300	253,125,752	294,818,250	327,211,037
Loans on collaterals	1,309,733	1,580,367	299,688	424,816	5,148,478
Cash loans and premium obligations on policies in force	113,825,139	128,090,606	141,288,436	162,797,279	195,566,166
Stocks, bonds and debentures	430,482,069	494,341,843	559,199,065	655,692,366	733,077,513
Interest and rent due and accrued	16,488,663	17,288,699	18,274,594	19,480,258	21,921,633
Cash on hand and in banks	7,767,781	6,824,016	7,243,364	7,467,221	6,325,633
Outstanding and deferred premiums	21,532,142	24,358,665	28,000,731	33,632,762	38,809,327
Other assets	1,280,799	1,192,931	1,662,406	2,227,526	3,299,825
Totals, Assets[1]	**812,174,244**	**918,974,031**	**1,036,509,504**	**1,206,417,421**	**1,366,298,618**
British Companies—					
Real estate	840,531	974,478	860,166	870,156	769,670
Loans on real estate	12,778,017	13,197,138	13,298,285	13,548,137	12,986,877
Loans on collaterals	2,000	963	863	1,738	76,613
Cash loans and premium obligations on policies in force	3,439,304	3,516,272	3,638,475	3,846,694	3,985,632
Stocks, bonds and debentures	30,622,296	32,182,272	32,207,849	32,667,057	32,121,391
Interest and rent due and accrued	426,836	440,731	446,074	464,776	502,247
Cash on hand and in banks	625,003	365,099	694,806	564,376	815,090
Outstanding and deferred premiums	550,305	563,478	514,772	522,352	536,879
Other assets	41,041	36,547	45,899	50,043	58,543
Totals, Assets in Canada	**49,325,333**	**51,276,978**	**51,707,189**	**52,535,329**	**51,852,942**
Foreign Companies—					
Real estate	1,793,182	3,811,182	2,766,911	2,484,145	2,378,116
Loans on real estate	12,357,088	19,082,906	23,790,383	23,479,295	23,416,508
Loans on collaterals	-	-	-	-	-
Cash loans and premium obligations on policies in force	21,704,069	24,120,321	26,932,123	30,993,628	37,035,100
Stocks, bonds and debentures	173,181,641	190,849,344	219,994,393	242,229,061	267,489,395
Interest and rent due and accrued	2,915,396	3,196,376	3,511,835	3,989,880	4,549,393
Cash on hand and in banks	2,798,370	3,131,710	3,896,179	4,396,656	5,660,803
Outstanding and deferred premiums	4,474,992	5,080,053	5,587,692	6,834,900	7,168,453
Other assets	4,369	82,341	46,632	9,333	767,079
Totals, Assets in Canada	**219,229,107**	**249,354,233**	**286,526,148**	**314,416,898**	**348,464,847**

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[1] The figures in the table give the book values; the market values of these assets were $833,610,604 in 1925, $945,339,817 in 1926, $1,077,501,770 in 1927, $1,251,326,900 in 1928, and $1,414,783,529 in 1929.

15.—Liabilities of Canadian Life Companies and Liabilities in Canada of Life Companies other than Canadian Companies, 1925-1929.

Item.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$
Canadian Companies—					
Unsettled claims	6,406,947	7,087,483	8,348,251	10,095,887	9,957,894
Net re-insurance reserve	688,566,082	778,056,671	870,467,629	1,008,797,408	1,140,615,583
Sundry liabilities	81,996,972	95,697,964	120,126,568	141,842,787	164,778,155
Totals, Liabilities, not Including Capital	**776,970,001**	**880,842,118**	**998,942,448**	**1,160,736,082**	**1,315,351,632**
Surplus of assets. excluding capital	56,640,603	64,497,699	78,559,322	90,590,818	99,431,897
Capital stock paid up	7,097,339	7,969,758	8,450,152	10,090,760	10,736,558
British Companies[1]—					
Unsettled claims	236,845	187,069	262,875	220,166	381,384
Net re-insurance reserve	26,895,947	27,904,909	29,402,171	30,818,854	31,496,050
Sundry liabilities	306,040	416,055	336,505	396,065	339,041
Totals, Liabilities, not Including Capital[1]	**27,438,832**	**28,508,033**	**30,001,551**	**31,435,085**	**32,216,475**
Surplus of assets	21,931,001	22,822,019	21,759,750	21,152,250	19,688,473
Foreign Companies[1]—					
Unsettled claims	742,298	991,140	920,991	1,235,410	1,024,856
Net re-insurance reserve	194,375,549	218,743,028	243,876,209	273,244,841	303,264,419
Sundry liabilities	10,152,390	11,562,456	14,020.362	15,880,498	17,358,608
Totals, Liabilities, not Including Capital[1]	**205,270,237**	**231,296,624**	**258,817,562**	**290,360,749**	**321,647,883**
Surplus of assets	13,958,870	18,052,609	27,708,586	24,056,149	26,816,964

[1] Liabilities in Canada.

16.—Total Cash Income and Expenditure of Canadian Life Companies, and Cash Income and Expenditure in Canada of Life Companies other than Canadian Companies, 1925-1929.

Item.	1925.	1926.	1927.	1928.	1929.
INCOME.	$	$	$	$	$
Canadian Companies[1]—					
Net premium income	145,924,473	166,433,775	189,773,972	219,695,507	258,392,082
Consideration for annuities	7,247,190	6,157,590	10,948,053	27,775,296	21,904,175
Interest and dividends on stocks, etc.	45,073,444	50,416,744	56,917,760	65,761,754	74,076,246
Sundry items	7,710,585	8,820,741	16,000,473	20,239,177	32,496,340
Totals, Cash Income[1]	**205,955,692**	**231,828,850**	**273,640,258**	**333,471,734**	**386,868,843**
British Companies[2]—					
Net premium income	4,121,230	3,888,776	3,963,694	4,036,669	4,000,064
Consideration for annuities	5,403	–	–	–	–
Interest and dividends on stocks, etc.	2,183,107	2,319,264	2,375,046	2,354,269	2,260,650
Sundry items	115,727	15,995	105,346	223,150	57,434
Totals, Cash Income[2]	**6,425,467**	**6,224,035**	**6,444,086**	**6,614,088**	**6,318,148**
Foreign Companies[2]—					
Net premium income	47,759,651	53,102,033	58,124,125	64,255,078	69,408,928
Consideration for annuities	380,216	232,734	217,076	221,904	401,236
Interest and dividends on stocks, etc.	10,882,800	11,953,472	13,477,158	15,468,627	17,396,145
Sundry items	1,422,042	1,350,344	1,882,648	1,775,089	2,083,815
Totals, Cash Income[2]	**60,444,709**	**66,638,583**	**73,701,007**	**81,720,698**	**89,290,124**

For footnotes see end of table, p. 941.

16.—Total Cash Income and Expenditure of Canadian Life Companies, and Cash Income and Expenditure in Canada of Life Companies other than Canadian Companies, 1925-1929—concluded.

Item.	1925.	1926.	1927.	1928.	1929.
EXPENDITURE.	$	$	$	$	$
Canadian Companies[1]—					
Payments to policyholders	84,188,643	89,824,776	102,211,905	118,287,824	152,626,413
General expenses	44,662,767	49,873,563	56,660,787	66,656,256	80,598,206
Dividends to stockholders	1,014,267	2,350,621	1,532,455	1,904,225	2,515,406
Totals, Expenditure[1]	**129,865,677**	**142,048,960**	**160,405,147**	**186,848,305**	**235,740,025**
Excess of income over expenditure	76,090,015	89,779,890	113,235,111	146,623,429	151,128,818
British Companies[2]—					
Payments to policyholders	2,908,182	2,385,677	2,771,207	3,107,238	3,393,542
General expenses	1,158,472	1,127,498	1,159,928	1,073,299	1,022,120
Dividends to stockholders	–	–	–	–	–
Totals, Expenditure[2]	**4,066,654**	**3,513,175**	**3,931,135**	**4,180,537**	**4,415,662**
Excess of income over expenditure	2,418,813	2,710,860	2,512,951	2,433,551	1,902,486
Foreign Companies[2]—					
Payments to policyholders	22,730,903	24,791,007	26,724,692	29,067,298	34,304,593
General expenses	12,480,333	13,355,165	14,679,640	16,158,575	17,404,013
Dividends to stockholders	–	–	–	–	–
Totals, Expenditure[2]	**35,211,236**	**38,146,172**	**41,404,332**	**45,225,873**	**51,708,606**
Excess of income over expenditure	25,233,473	28,492,411	32,296,675	36,494,825	37,581,518

[1] Includes income or expenditure on business outside of Canada. [2] Income or expenditure in Canada.

Life Insurance Effected through Fraternal Benefit Societies.—Table 17 gives statistics of life insurance effected through fraternal benefit societies on the members thereof. The rates charged by these societies are computed to be sufficient to provide the benefit granted, having regard for actuarial principles. Each benefit fund of every society must be valued annually by a qualified actuary (Fellow of the Institute of Actuaries, London; of the Faculty of Actuaries in Scotland; of the Actuarial Society of America; or of the American Institute of Actuaries), and unless the actuary certifies to the solvency of each fund a readjustment of rates or benefits must be made. The statistics in the first part of this table relate to the 9 Canadian societies reporting to the Insurance Department of the Dominion Government, *viz.*, the Alliance Nationale, the Ancient Order of Foresters, the Artisans Canadiens-Français, Canadian Woodmen of the World, the Catholic Mutual Benefit Association, the Commercial Travellers' Association of Canada, the Commercial Travellers' Mutual Insurance Society, the Independent Order "Fior d'Italia", the Independent Order of Foresters and the Grand Orange Lodge of British America.

Under an amendment of the Insurance Act, which became effective Jan. 1, 1920, it became necessary for all foreign fraternal societies previously transacting business in Canada under provincial licences to obtain licences under the Insurance Act, in order to be permitted to continue to issue new insurance in Canada. Twenty-one such societies transacted business in 1929, *viz.*, Association Canado-Américaine, Brotherhood of American Yeomen, Catholic Order of Foresters, Expressmen's Mutual Benefit Association, Jewish National Workers' Alliance, Knights of Columbus, Knights of Pythias, Ladies' Catholic Benevolent Association, Lutheran Brotherhood, Lutheran Mutual Aid Society, Maccabees, National Fraternal Society of the Deaf, Sons of Zion, Royal Arcanum, Royal

Clan (Order of Scottish Clans), Slovene National Benefit Society, Sons of Norway, Verhovay Aid Association, Women's Benefit Association, Women's Catholic Order of Foresters, Workmen's Circle.

17.—Life Insurance Effected through Fraternal Benefit Societies, 1925-1929.

NOTE.—The figures are for Canadian business only.

Item.	1925.	1926.	1927.	1928.	1929.
CANADIAN SOCIETIES.					
Number of certificates taken	17,796	13,309	15,475	18,857	20,079
Number of certificates become claims	2,625	2,913	3,146	3,521	3,250
	$	$	$	$	$
Amount paid by members	2,685,091	2,861,498	3,104,177	2,984,515	2,981,508
Amount of certificates new and taken up	15,611,079	11,014,014	13,867,269	15,896,261	15,095,645
Net amount in force	130,318,622	135,723,963	135,093,703	136,421,265	136,107,164
Amount of certificates become claims	2,257,223	2,527,687	2,658,332	2,941,605	2,776,499
Benefits paid	2,467,699	2,745,405	3,188,977	3,169,951	3,213,574
Unsettled claims—					
Not resisted	148,448	165,663	160,652	192,374	227,555
Resisted	500	-	1,000	2,000	-
Amount terminated by—					
Death	1,600,297	1,836.023	2,004,914	2,180,196	2.227,415
Surrender, expiry, lapse, etc	12,845,140	21,098,273	15,435,133	15,689,299	17,172,287
Totals, Terminated	14,445,437	22,934,296	17,440,047	17,869,495	19,399,702
Assets—					
Real estate	1,932,622	1,787,554	1,905,763	2,154,998	2,141,627
Loans on real estate	11,142,510	13,204,927	14,523,005	15,994,461	17,205,743
Policy loans	14,910,898	12,203,937	10,581,935	10,198,992	9,959,596
Stocks, bonds and debentures	28,546,970	31,943,034	32,746,864	33,964,330	35,363,109
Cash on hand and in banks	766,486	921,356	942,491	930,342	857,160
Interest and rent due and accrued	683,780	763,704	780,986	824,885	849,206
Dues from members	311,141	333,609	279,384	272,608	275,843
Other assets	3,752,062	3,612,092	3,403,796	2,925,253	2,712,074
Totals, Assets[1]	**62,046,469**	**64,770,213**	**65,164,224**	**67,265,869**	**69,364,358**
Liabilities—					
Claims, unsettled	220,373	238,626	225,026	275,268	298,934
Reserves	56,641,355	59,585,420	60,059,878	61,005,846	61,578,374
Other liabilities	1,702,449	1,752,426	1,949,650	2,093,745	2,023,571
Totals, Liabilities	**58,564,177**	**61,576,472**	**62,234,554**	**63,374,859**	**63,900,879**
Income—					
Assessments	5,446,621	5,702,431	6,014,340	6,041,199	5,795,297
Fees and dues	536,798	499,186	527,875	543,487	536,441
Interest and rents	2,929,356	3,060,006	3,254,759	3,378,298	3,455,537
Other receipts	345,681	138,979	145,063	198,129	79,557
Totals, Income	**9,258,456**	**9,400,602**	**9,942,037**	**10,161,113**	**9,866,832**
Expenditure—					
Paid to members	5,120,737	5,470,254	5,817,002	5,795,082	5,987,451
General expenses	1,862,853	1,731,975	1,787,512	1,695,201	1,699,564
Totals, Expenditure	**6,983,590**	**7,202,229**	**7,604,514**	**7,490,283**	**7,687,015**
Excess of income over expenditure	2,274,866	2,198,373	2,337,523	2,670,830	2,179,817
FOREIGN SOCIETIES.					
Number of certificates taken	5,304	5,376	5,392	5.328	4,965
Number of certificates become claims	858	790	735	741	786
	$	$	$	$	$
Amount paid by members	1,184,988	1,178,880	1,102,829	973,144	1,061,584
Amount of certificates new and taken up	6,009,816	6.158,925	7,045,512	5,843,865	5,396,175
Net amount in force	56,238,069	57,544,334	56,961,015	49,908,304	51,921,366
Amount of certificates become claims	813,443	859,923	816,036	752,052	808,840
Benefits paid	760,313	879,343	809,321	756,424	812,695

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[1] The figures given are the book values; the market values of these assets were $62,430,337 in 1925, $65,563,639 in 1926, $66,864,489 in 1927, $68,275,989 in 1928 and $69,410,022 in 1929.

17.—Life Insurance Effected through Fraternal Benefit Societies, 1925-1929—concluded.

NOTE.—The figures are for Canadian business only.

Item.	1925.	1926.	1927.	1928.	1929.
	$	$	$	$	$
FOREIGN SOCIETIES—conc.					
Unsettled claims—					
Not resisted	103,040	78,700	89,339	78,308	91,688
Resisted	1,000	–	–	–	–
Amount terminated by—					
Death	712,327	755,148	727,272	678,684	733,671
Surrender, expiry, lapse, etc.	6,413,306	4,727,145	7,538,906	4,383,537	5,095,397
Totals, Terminated	7,125,633	5,482,293	8,266,178	5,062,221	5,829,068
Assets—					
Real estate	7,700	7,700	–	–	–
Loans on real estate	1,800	–	–	–	–
Policy loans	11,517	15,315	12,497	23,884	45,505
Stocks, bonds and debentures	1,378,070	1,602,099	1,804,502	1,887,847	2,225,355
Cash on hand and in banks	308,526	244,269	285,298	235,948	355,104
Interest and rent due and accrued	19,023	20,009	23,203	26,405	30,323
Dues from members	67,112	76,980	56,739	78,151	72,204
Other assets	85	3	36	69	468
Totals, Assets	**1,793,833**	**1,966,375**	**2,182,275**	**2,252,304**	**2,728,959**
Liabilities—					
Claims, unsettled	109,278	84,993	94,749	83,257	97,704
Reserves	5,214.784	5,605,766	6,506,723	6,859,496	7,376,121
Due on account of general expenses	20,876	28,020	111,837	14,359	12,807
Other liabilities	2,021	7,163	3,408	6,986	2,366
Totals, Liabilities	**5,346,959**	**5,725,942**	**6,716,717**	**6,964,098**	**7,488,998**
Income—					
Assessments	1,252,169	1,241,274	1,181,180	1,051,521	1,146,134
Fees and dues	239,315	245,096	309,534	289,455	273,525
Interest and rents	82,085	88,406	94,557	118,740	123,814
Other receipts	5,885	4,782	5,387	5,912	8,115
Totals, Income	**1,579,454**	**1,579,558**	**1,590,658**	**1,465,628**	**1,551,588**
Expenditure—					
Paid to members	838,401	940,330	885,530	813,334	894,513
General expenses	135,688	174,421	205,037	190,350	178,029
Totals, Expenditure	**974,089**	**1,114,751**	**1,090,567**	**1,003,684**	**1,072,542**
Excess of income over expenditure	605,365	464,807	500,091	461,944	479,046

Summary of Life Insurance in Canada, 1929.—In addition to the business transacted by life insurance companies incorporated by the Dominion Government to carry on business throughout the country, a considerable volume is also carried on by companies operating under provincial licences or otherwise permitted by the Provincial Governments to carry on such transactions. Statistics of these provincial companies have been collected since 1915 by the Department of Insurance. Table **18,** showing policies issued and in force, premiums received and losses paid, as at Dec. 31, 1929, summarizes the volume of business done by both life companies and fraternal societies as Dominion and provincial licensees in that year.

18.—Dominion and Provincial Life Insurance in Canada, 1929.

Business Transacted by—	New Policies Issued (gross).	Net In Force Dec. 31.	Net Premiums Received.	Net Claims Paid.
	$	$	$	$
1. Dominion Licensees—				
(a) Life insurance in companies	978,141,485	6,157,262,207	210,728,479	51,294,650
(b) Fraternals	20,491,820	188,028,530	4,043,092	3,553,450
Totals for Dominion Companies	**998,633,305**	**6,345,290,737**	**214,771,571**	**54,848,100**
2. Provincial Licensees—				
(a) Provincial companies within provinces by which they are incorporated—				
(1) Life companies	22,377,827	70,768,651	1,917,762	492,138
(2) Fraternals	3,293,734	54,864,832	1,665,380	1,218,761
(b) Provincial companies in provinces other than those by which they are incorporated—				
(1) Life companies	9,248,750	33,286,322	868,651	219,232
(2) Fraternals	2,193,123	44,041,202	858,775	610,079
Totals for Provincial Companies	**37,113,434**	**262,961,007**	**5,310,568**	**2,540,210**
Grand Totals	**1,035,746,739**	**6,548,251,744**	**220,082,139**	**57,388,310**

Section 3.—Miscellaneous Insurance.

Since 1875 the growth of insurance business other than fire and life has been a steady one. The report of the Superintendent of Insurance for the calendar year 1880 shows that the number of companies duly licensed for the transaction of accident, guarantee, plate glass and steam boiler insurance—the only four classes of miscellaneous insurance then transacted—was 5, 3, 1 and 1 respectively. The report for the year 1929 shows that miscellaneous insurance in Canada now includes: accident, sickness, automobile, burglary, explosion, forgery, guarantee, leakage, steam boiler, title, tornado, live-stock insurance, etc. In 1880 10 companies transacted business of the miscellaneous kind, but in 1929 such insurance was sold by 225 companies, of which 47 were Canadian, 57 British and 121 foreign. In addition, 12 fraternal orders or societies carried on sickness insurance as well as life insurance business.

Accident Insurance.—The first licence of this kind was issued to the Travelers Co., of Hartford, Conn., in 1868. The first licence to a Canadian company was issued to the Accident Insurance Co. of Canada, which was organized in 1872 and commenced business in 1874. Much accident insurance has also been sold by companies doing primarily a life insurance business. Sixty-five companies transacted accident insurance in 1929.

Automobile Insurance.—This is now one of the most important branches of the miscellaneous class of insurance. Premiums increased from $80,446 in 1910 to $573,604 in 1915 and to $12,769,905 in 1928, and for 1929 reached $16,827,604, showing an increase of nearly 32 p.c. for the year. There has been an increase in the number of companies from 7 to 148 during the 19-year period.

Plate Glass Insurance.—Policies were first sold in Canada by the Metropolitan Plate Glass Insurance Co., a United States' concern, which withdrew from Canada during 1882 to avoid business restrictions. The 69 companies operating in Canada in 1929 received premiums of $603,262 and incurred claims of $245,680

Burglary Insurance.—This type of insurance received but slight attention in Canada until 1918. In 1893, however, one company issued burglary policies. A second followed in 1905, and in 1910 5 companies were operating, while at the end of 1929 60 companies were reported as having sold this type of insurance during the year. The premium income of these companies amounted in 1929 to $1,218,216 and the losses incurred amounted to $268,272.

Hail Insurance.—Insurance against hailstorms is a class of business of comparatively recent development in Canada. During the year 1929, 40 insurance companies undertook this class of risk, the premiums written amounting to $3,571,334 and the losses incurred to $1,013,527. The total premiums for the 19 years during which this business has been carried on in Canada amounted to $61,592,519 and the total losses paid to $42,053,602.

19.—Insurance other than Fire and Life, 1929.[1]

Type of Insurance.	Premiums Received.	Losses Incurred.	Unsettled Claims.	
			Not Resisted.	Resisted.
	$	$	$	$
Guarantee (Fidelity)	1,361,899	570,209	397,808	62,608
Guarantee (Surety)	1,221,289	464,619	311,503	175,403
Personal Accident	3,491,346	1,637,166	557,237	33,858
Personal Accident and Sickness	1,848,535	1,123,173	224,877	1,660
Employers' Liability and Workmen's Compensation	5,722,484	4,085,975	2,771,514	17,550
Other Accident Insurance	1,562,957	516,641	299,167	27,426
Sickness	1,869,197	1,163,983	306,800	4,600
Burglary	1,218,216	268,272	60,206	6,500
Steam Boiler	506,617	39,122	17,455	None
Hail	3,571,334	1,013,527	17,611	1,500
Inland Transportation	1,116,171	254,178	39,912	None
Plate Glass	603,262	245,680	27,373	None
Automobile	16,827,604	9,520,738	3,513,035	209,747
Live Stock	75,419	42,295	7,400	3,500
Tornado	225,441	171,324	8,954	None
Earthquake	7,115	None	None	None
Forgery	60,259	59,470	2,798	50,000
Rain	18,418	14,601	100	None
Credit	332,110	203,093	152,787	1,000
Electrical Machinery	155,597	31,114	13,511	None
Fraud	20,973	7,657	None	None

[1] Dominion licensees only.

20.—Income and Expenditure, and Assets and Liabilities of Canadian Companies Doing only Insurance Business other than Fire and Life, 1929.

Company.	Income.	Expenditure.	Excess of Income over Expenditure.	Assets.	Liabilities.[2]	Excess of Assets over Liabilities.
	$	$	$	$	$	$
Boiler Inspection	311,586	311,573	13	884,511	378,054	506,457
Chartered Trust	435,861	351,965	83,896	3,900,068[3]	2,755,607	1,144,461
Confederation Life	None	None	None	82,268	None	82,268
Fidelity Insurance	420,159	445,363	−25,204	524,526	276,285	284,241
T. Eaton General	22,112	5,322	16,790	134,131	1,664	132,467
Guarantee Co. of North America	667,931	535,626	132,305	4,274,222	1,234,213	3,040,009
London Life	42,272	33,609	8,663	100,970	16,841	84,129
Merchants Casualty	394,867	434,867	−40,000	378,106	269,726	108,380
North American Accident	118,076	90,245	27,831	389,761	42,666	347,095
Premier Guarantee	118,359	25,355	93,004	96,540	6,441	90,099
Protective Association	446,146	457,897	−11,751	306,022	158,224	147,798
Royal Guardians	4,332	3,907	425	18,822	6,758	12,064
Totals	**2,981,701**	**2,695,729**	**285,972**	**11,089,947**	**5,146,479**	**5,943,468**

[2] Not including capital stock. [3] Including $1,099,188 loans on collateral.

21.—Income and Expenditure in Canada of Companies, other than Canadian, Doing only Insurance Business other than Fire and Life, 1929.

Company.	Income.			Expenditure.			Excess of Income over Expenditure.
	Premiums.	Interest and Dividends Earned.	Total Income.	Net Losses Incurred.	General Expenditure.	Total Expenditure.	
	$	$	$	$	$	$	$
Abeille	94,223	3,693	97,917	29,784	40,387	70,170	27,746
Aero Indemnity	16,248	None	16,248	2,405	350	2,755	13,493
Aero Insurance	21,198	None	21,198	9,194	500	9,694	11,504
Ætna Casualty	18,527	2,996	36,619	16,408	17,721	34,129	2,491
Ætna Life	758	2,044	2,802	None	460	460	2,342
American and Foreign	7,060	None	7,060	None	1,942	1,942	5,118
American Automobile Fire	343,295	569	343,864	137,519	116,738	254,257	89,606
American Automobile	542,798	421	543,219	286,976	182,612	469,588	73,631
American Credit	217,796	3,777	222,511	132,708	126,024	258,732	− 36,221
American Surety	61,730	4,250	65,980	150,284	17,421	167,705	− 101,725
Bankers Indemnity	9,070	1,959	11,029	None	3,215	3,215	7,814
British and Foreign	None	5,990	5,990	None	127	127	5,863
Century Indemnity	10,608	15,222	25,830	734	4,450	5,184	20,646
Connecticut General	None	None	None	None	None	None	None
Constitution Indemnity	79,466	1,980	81,446	49,480	42,230	91,710	− 10,264
Continental Casualty	866,639	27,381	894,020	404,986	402,823	807,809	86,210
Employers Reinsurance	113,943	2,753	116,696	49,400	6,823	56,223	60,473
Federal	None	4,977	4,977	None	None	None	4,977
Fidelity and Casualty	None	12,798	12,798	6,409	1,667	8,076	4,722
General Casualty of Paris	162,812	16,730	179,542	69,868	103,064	172,933	6,610
General Casualty of America	27,254	4,091	31,345	19,607	12,096	31,703	− 358
General Exchange	469,205	16,775	485,980	335,380	94,398	429,779	56,202
General Indemnity	1,382	500	1,912	None	648	648	1,264
General Reinsurance	3,910	584	4,494	5,025	2,039	7,064	− 2,570
Hartford Accident	177,515	13,216	190,731	84,661	75,048	159,708	31,022
Hartford Live Stock	33,045	3,523	36,567	33,981	11,350	45,331	− 8,764
Hartford Steam Boiler	10,606	2,500	13,106	None	None	None	13,106
Indemnity Insurance Co.	193,507	17,625	212,064	100,315	84,969	185,284	26,780
International Fidelity	6,333	None	6,333	1,375	861	2,237	4,096
Loyal Protective	291,812	5,146	300,905	184,201	115,974	300,174	731
Lumbermen's Mutual Casualty	267,364	6,698	274,063	135,198	66,053	226,142[1]	47,921
Maryland Casualty	859,597	30,661	890,259	479,613	259,935	739,548	150,711
Metropolitan Casualty	126	1,121	1,248	None	197	197	1,051
Metropolitan Life	555,292	17,150	572,442	381,242	128,560	509,802	62,640
Monarch Accident	58,442	2,250	60,692	28,180	27,185	55,365	5,327
National Surety	426,003	21,520	450,317	186,477	188,154	374,631	75,686
National Union Indemnity	61,808	8,150	69,958	23,589	30,941	54,530	15,428
New York Casualty	159,467	9,227	168,694	120,845	59,159	180,004	− 11,310
New York Indemnity	38,870	8,439	47,561	3,027	42,899	45,925	1,636
Occidental Life	None	None	None	None	None	None	None
Ocean Marine	None	None	None	None	None	None	None
Preferred Accident	132,657	10,151	142,808	88,411	61,696	150,107	− 7,299
Prudential Insurance	1,898	None	1,898	1,212	324	1,536	362
Ridgely Protective	88,614[2]	1,899	90,513	45,055	40,586[2]	85,642	4,871
St. Paul Mercury	42,574	1,984	44,558	26,235	13,752	39,987	4,571
Standard Marine	730	500	1,230	None	137	137	1,093
Tornado Inter-Insurance	2,990	133	3,123	None	1,311	1,311	1,812
Transportation	7,483	None	7,483	875	2,349	3,225	4,259
Travelers Indemnity	585,436	29,262	614,697	306,467	280,002	586,469	28,228
Travelers Insurance	1,512,300	41,884	1,554,183	1,223,971	530,707	1,754,677	− 200,494
United States Fidelity	1,338,321	45,000	1,383,321	570,000	551,965	1,121,965	261,356
Western Casualty	22,506[3]	None	22,506	12,862	16,204[4]	29,065	− 6,559
Zurich	475,848	24,851	500,699	201,807	212,872	414,679	86,020
Totals for 1929	**10,419,066**	**432,380**	**10,875,436**	**5,945,766**	**3,980,925**	**9,951,581**	**923,855**

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[1] Including $24,890.28 dividends or savings credited to subscribers.

[2] Including $7,145.16 initial premiums.

[3] Including $2,950 policy fees.

[4] Including $2,950 policy fees retained by agents.

22.—Dominion and Provincial Insurance in Canada, other than Fire and Life, 1929.

NET PREMIUMS RECEIVED.

Class of Business.	Dominion Licensees.	Provincial Licensees. (a) Prov. Cos. within Provinces by which they are Incorp.	Provincial Licensees. (b) Prov. Cos. in Provinces other than those by which they are Incorp.	Provincial Licensees. Total Provincial Licensees.	Grand Total.
	$	$	$	$	$
Accident (1) Personal	3,491,346	4,373	1,138	5,511	3,496,857
(2) Employers' Liability and Workmen's Compensation	5,722,484	23,045	249.588	272,633	5,995,117
(3) Other	1,562,957	17,582	6,539	24,121	1,587,078
Accident and Sickness Combined	1,848,535	48,329	44,918	93,247	1,941,782
Automobile	16,827,604	323,321	228,182	551,503	17,379,107
Aviation	204,724	None	None	None	204,724
Burglary	1,218,216	3,060	3,265	6,325	1,224,541
Credit	332,110	None	None	None	332,110
Earthquake	7,115	None	None	None	7,115
Electrical Machinery	155,597	None	None	None	155,597
Forgery	60,259	None	None	None	60,259
Fraud	20,973	None	None	None	20,973
Guarantee (Fidelity)	1,361,899 [1]	75,001[1]	12,318[1]	87,319	2,670,507
Guarantee (Surety)	1,221,289				
Hail	3,571,334	53,628	None	53,628	3,624,962
Inland Transportation	1,116,171	3,693	17	3,710	1,119.881
Live Stock	75,419	None	None	None	75,419
Plate Glass	603,262	57,546	3,002	60,548	663,810
Rain	18,418	None	None	None	18,418
Sickness	1,869,197	None	None	None	1,869,197
Sprinkler[2]	16,960	None	None	None	16,960
Steam Boiler	506,617	None	None	None	506,617
Title	None	None	None	None	None
Tornado	225,441	None	None	None	225,441
Weather	None	64,403	None	64,403	64,403
Totals	**42,037,927**	**673,981**	**548,967**	**1,222,948**[3]	**43,260,875**[3]

NET LOSSES INCURRED.

Class of Business.	Dominion Licensees.	Provincial Licensees. (a) Prov. Cos. within Provinces by which they are Incorp.	Provincial Licensees. (b) Prov. Cos. in Provinces other than those by which they are Incorp.	Provincial Licensees. Total Provincial Licensees.	Grand Total.
Accident (1) Personal	1,637,166	None	None	None	1,637,166
(2) Employers' Liability and Workmen's Compensation	4,085,975	1,530	181,985	183,515	4,269,490
(3) Other	516,641	8,715	5,284	13,999	530,640
Accident and Sickness Combined	1,123,173	17,868	12,264	30,132	1,153,305
Automobile	9,520,738	141,368	160,411	301,779	9,822,517
Aviation	69,162	None	None	None	69,162
Burglary	268,272	1,117	874	1,991	270,263
Credit	203,093	None	None	None	203,093
Earthquake	None	None	None	None	None
Electrical Machinery	31,114	None	None	None	31,114
Forgery	59,470	None	None	None	59,470
Fraud	7,657	None	None	None	7,657
Guarantee (Fidelity)	570,209 [1]	13,518[1]	1,342[1]	14,860	1,049,688
Guarantee (Surety)	464,619				
Hail	1,013,527	None	None	None	1,013,527
Inland Transportation	254,178	9,050	75	9,125	263,303
Live Stock	42,295	None	None	None	42,295
Plate Glass	245,680	35,448	2,933	38,381	284,061
Rain	14,601	None	None	None	14,601
Sickness	1,163,983	None	None	None	1,163,983
Sprinkler[2]	6,690	None	None	None	6,690
Steam Boiler	39,122	None	None	None	39,122
Title	None	None	None	None	None
Tornado	171,324	None	None	None.	171,324
Weather	None	58,633	None	58,633	58,633
Totals	**21,508,689**	**287,247**	**365,168**	**652,415**[4]	**22,161,104**

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[1] Provincial companies did not furnish a separation of guarantee figures.

[2] This business was transacted by a company not holding a licence to transact fire insurance.

[3] Excluding $2,095,444 premiums of Fraternal Benefit Societies for Accident, Sickness and Funeral Business.

[4] Excluding $1,103,630, losses of Fraternal Benefit Societies for Accident, Sickness and Funeral Business

Section 4.—Government Annuities.

In the early years of the 20th century, there arose throughout the civilized world a distinct movement in favour of ameliorating the living conditions of the less well-off members of society. One form which this movement took in the United Kingdom was that of old age pensions, granted by the State as a gift to its poorer citizens, whose earnings were very generally insufficient to permit of a margin of saving. In Canada, where wages were higher and a margin of saving was possible, the movement at first took the form of providing, by establishing Government annuities, an absolutely safe investment for such savings, which had only too often been lost through the inexperience of their owners, leaving the latter a burden upon the charity of relatives or of the public.[1] The cost of administering these annuities is borne by the Dominion Government.

Under the Government Annuities Act, (Chapter 5 of the Statutes of 1908, now incorporated, with amendments, in c. 7, R.S.C., 1927), His Majesty the King, represented by the Minister (at present the Minister of Labour), may sell to persons over the age of 5 years, domiciled or resident in Canada, immediate or deferred annuities of not less than $10 nor more than $5,000 (1) for the life of the annuitant, (2) for a term of years certain, not exceeding 20 years, or for the life of the annuitant, whichever period shall be the longer, or (3) to any two persons domiciled in Canada during their joint lives, and with or without continuation to the survivor. The property and interest of any annuitant in any contract for an annuity is neither transferable nor attachable. The purchaser may contract that, in the event of the death of the annuitant before the date fixed for the annuity to begin, all money paid shall be refunded to the purchaser or his legal representatives with interest at the rate of 4 p.c. compounded yearly.

The Government Annuities Act was amended by c. 12 of the Statutes of 1925, reducing the minimum annuity purchasable from $50 to $10, so that single-premium cumulative annuities of $10 and multiples thereof might be purchased by any person at any time. It was considered that this amendment would make it possible for employers, instead of paying cash bonuses to their deserving employees in good years, to make provision for the old age of such employees by purchasing annuities of $10 or multiples thereof.

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[1] A Dominion-Provincial non-contributory scheme of old age pensions, providing for the payment, to persons 70 years and over, of pensions not exceeding $20 per month, contributed in equal parts by the Dominion and the provinces which become parties to the scheme, was enacted by chapter 35 of the Dominion Statutes of 1927. The system is now in effect in British Columbia, Manitoba, Saskatchewan, Alberta, Ontario and the Northwest Territories. For further particulars, see pp. 780-783.

From Sept. 1, 1908, the date of the inception of the Annuities Branch, up to and inclusive of Mar. 31, 1930, the total number of annuity contracts issued was 11,521. Of these contracts, 1,338 have been cancelled, leaving in force on Mar. 31, 1930, 10,183 contracts. The total amount of purchase money received during the same period was $24,860,087. The following statement gives the details:—

Fiscal Year ended Mar. 31.	Contracts.	Purchase Money Received.
	No.	$
1909[1]	66	50,391
1910	566	434,491
1911	1,069	393,441
1912	1,032	441,601
1913	373	417,136
1914	318	390,887
1915	264	314,765
1916	325	441,696
1917	285	432,272
1918	187	332,792
1919	147	322,154
1920	204	408,719
1921	195	531,800
1922	277	748,160
1923	339	1,028,353
1924	409	1,458,819
1925	486	1,606,822
1926	668	1,938,921
1927	503	1,894,885
1928	1,223	3,843,088
1929	1,328	4,272,419
1930	1,257	3,156,475
Totals	**11,521**	**24,860,087**

[1] Seven months.

Statistics of the annuities in force for the last four years are given in Tables **23** and **24**. From Sept. 1, 1908, to Mar. 31, 1930, 11,521 annuities had been issued. On Mar. 31, 1930, 4,012 immediate annuities and 6,171 deferred annuities were in force. The total value of these annuities on that date was $20,720,895 and the amount of annuities purchased was $3,893,123.

23.—Government Annuities Fund Statement, fiscal years ended Mar. 31, 1927-1930.

Item.	Years ended Mar. 31— 1927.	1928.	1929.	1930.
	$	$	$	$
ASSETS.				
Fund at beginning of year	10,021,705	11,446,119	14,719,484	18,369,100
Receipts during the year, less payments	1,424,414	3,273,365	3,649,616	2,243,150
Fund at end of year	11,446,119	14,719,484	18,369,100	20,612,250
LIABILITIES.				
Net present value of all outstanding contracts	11,392,980	14,852,328	18,335,193	20,720,895
RECEIPTS.				
For Immediate Annuities	1,520,794	3,156,877	3,607,110	2,484,818
For Deferred Annuities	374,633	702,185	673,274	682,887
Interest on Fund	414,680	493,965	638,889	757,393
Refunds	1,332	500	1,056	184
For amount transferred to maintain Reserve for 1927-8	-	-	132,844	-
Totals	**2,311,439**	**4,353,527**	**5,053,173**	**3,925,282**
PAYMENTS.				
Annuities paid under Immediate Contracts	864,787	1,043,766	1,368,542	1,646,699
Return of Premiums with interest	21,697	20,422	27,051	24,203
Return of Premiums without interest	541	15.974	7,965	11,230
Add balance at end of year	1,424,414	3,273,365	3,649.615	2.243,150
Totals	**2,311,439**	**4,353,527**	**5,053,173**	**3,925,282**

24.—Valuation, on Mar. 31, 1929 and 1930, of Annuity Contracts Issued pursuant to the Government Annuities Act, 1908.

Description of Contract.	1929. Number.	Amount of Annuities.	Total Value on Mar. 31, 1929, of Annuities Purchased.	1930. Number.	Amount of Annuities.	Total Value on Mar. 31, 1930, of Annuities Purchased.
		$	$		$	$
1—Immediate Annuities	2,201	1,021,175	8,198,716	2,497	1,159,669	9,209,660
2—Guaranteed Annuities	892	301,212	3,186,510	991	330,266	3,390,243
3—Last Survivor Annuities	436	233,884	2,617,759	524	288,970	3,245,270
4—Deferred Annuities	5,566	1,842,932	4,332,208	6,171	2,114,218	4,875,722
Totals	**9,095**	**3,399,203**	**18,335,193**	**10,183**	**3,893,123**	**20,720,895**

CHAPTER XXIV.—COMMERCIAL FAILURES.

According to section 91 of the British North America Act, "the exclusive legislative authority of the Parliament of Canada" extends to bankruptcy and insolvency legislation, and an Insolvency Act (32-33 Vict., c. 16) was actually passed by the Dominion Parliament in 1869 applying to the four original provinces. This Act was in force for four years and was renewed by c. 46 of the Statutes of 1874, while in 1875 a new Insolvency Act (38 Vict., c. 16) applicable to the whole Dominion was passed, but was repealed in 1880. After this there was no Dominion legislation on the subject of bankruptcy until 1919. During the interval of nearly 40 years commercial failures were handled under provincial legislation, and the statistics relating to such failures during this period were compiled and published by Dun's and Bradstreet's commercial agencies. In 1919 a general Dominion Bankruptcy Act was passed (9-10 Geo. V, c. 36). Statistics of commercial failures dealt with under this Act since it came into force in 1920 have been compiled and published by the Dominion Bureau of Statistics. (See pp. 955-956.)

The history of commercial failures in Canada is traced by years from 1900 in Table **1.** Both Bradstreet's and Dun's records are included for comparative purposes. The two sets of records are shown in the table to have the same general tendency so far as numbers of failures are concerned. Dun's record, however, ordinarily shows a rather larger number of failures, and considerably larger assets and liabilities than Bradstreet's.

1.—Commercial Failures in Canada, with Their Assets and Liabilities, According to Bradstreet's and Dun's Records, for the calendar years 1900-1930.

Year.	Bradstreet's.			Dun's.		
	Failures.	Assets.	Liabilities.	Failures.	Assets.	Liabilities.
	No.	$	$	No.	$	$
1900	1,337	4,246,693	10,785,601	1,355	8,202,898	11,613,208
1901	1,379	5,264,551	11,783,837	1,341	7,686,823	10,811,671
1902	1,095	3,602,542	8,546,365	1,101	7,772,418	10,934,777
1903	958	3,870,605	8,372,011	978	4,872,422	7,552,724
1904	1,175	4,137,418	10,019,311	1,246	8,555,875	11,394,117
1905	1,430	6,584,191	13,879,700	1,347	6,822,005	9,854,659
1906	1,239	4,305,076	9,450,093	1,184	6,499,052	9,085,773
1907	1,365	5,276,698	11,735,272	1,278	9,443,227	13,221,250
1908	1,715	7,770,207	17,582,304	1,640	12,008,113	14,931,790
1909	1,588	6,195,515	12,811,184	1,442	10,318,511	12,982,800
1910	1,469	7,075,347	15,712,586	1,262	11,013,396	14,514,650
1911	1,401	6,420,331	13,086,946	1,332	9,964,404	13,491,196
1912	1,312	5,611,675	12,355,282	1,357	8,783,409	12,316,396
1913	1,827	8,140,990	16,650,450	1,719	12,658,979	16,979,406
1914	2,886	13,507,536	30,693,658	2,892	30,888,363	34,996,694
1915	2,621	14,227,192	32,134,312	2,652	39,243,658	40,676,621
1916	1,772	6,349,078	15,952,684	1,677	19,610,703	24,985,908
1917	1,109	6,207,512	13,616,822	1,088	12,994,179	18,108,347
1918	814	5,354,727	12,413,536	873	11,246,341	14,502,477
1919	625	5,089,534	10,095,232	751	10,731,541	16,224,259
1920	966	10,478,465	20,808,053	1,034	17,501,332	24,719,111
1921	2,350	21,489,236	48,553,757	2,379	55,114,487	68,947,140
1922	3,185	23,933,136	55,047,342	3,630	62,424,514	76,314,674
1923	2,915	21,619,354	51,416,766	3,197	45,480,216	61,853,697
1924	2,287	16,553,935	42,278,195	2,445	47,590,367	63,325,975
1925	2,094	14,511,917	35,505,951	2,337	32,518,709	45,399,425
1926	2,085	11,316,925	27,414,401	2,172	25,325,884	36,574,913
1927	1,993	10,617,083	25,846,247	2,154	24,312,741	34,177,441
1928	1,863	14,182,652	36,451,242	2,100	36,179,540	52,895,907
1929	2,091	11,527,584	31,990,900	2,286	29,528,527	44,299,881
1930	2,468	19,454,336	45,729,445	2,705	39,231,654	56,289,560

Failures by Branches of Business.—The majority of the commercial failures of the country are always to be found among the trading establishments. Thus, according to Dun's records, out of a total of 2,705 commercial failures in the Dominion in 1930, 1,859 were those of trading establishments. The aggregate liabilities of the 615 manufacturers who failed in 1930, however, were larger than those of the 1,859 traders. The figures are given by these broad groups for the years from 1915 to 1930 in Table **2**, while the failures of manufacturers and traders are further analysed for the years 1928 to 1930 in Table **3.**

2.—Commercial Failures in Canada, by Provinces and Classes, for the calendar year 1930, with Totals for 1915-1929 [From Dun's Review].

NOTE.—Newfoundland included in totals, 1915-1929.

Province.	Total Commercial.			Manufacturing.	
	No.	Assets.	Liabilities.	No.	Liabilities.
		$	$		$
Prince Edward Island	1	6,759	19,318	–	–
Nova Scotia	58	226,056	814,497	7	148,556
New Brunswick	36	322,228	507,488	8	103,740
Quebec	1,169	16,341,462	23,685,182	337	8,247,083
Ontario	668	11,479,067	15,834,271	164	8,179,513
Manitoba	218	3,340,174	3,968,081	27	351,994
Saskatchewan	228	2,072,639	3,414,335	14	186,757
Alberta	140	1,473,199	1,702,989	20	238,570
British Columbia	187	3,970,070	6,343,399	38	3,778,374
Totals, 1930	**2,705**	**39,231,654**	**56,289,560**	**615**	**21,234,587**
Newfoundland	36	242,928	901,933	4	15,331
Totals, 1929	2,310	29,572,569	44,440,639	624	19,967,419
" 1928	2,120	36,407,391	53,420,199	506	17,032,983
" 1927	2,182	24,420,941	34,461,595	502	15,347,401
" 1926	2,196	25,668,509	37,082,882	527	16,465,754
" 1925	2,371	32,651,834	45,767,825	563	24,046,514
" 1924	2,474	47,937,427	64,530,975	625	36,542,658
" 1923	3,247	46,833,195	65,810,382	792	31,791,332
" 1922	3,695	63,097,789	78,068,959	857	39,080,791
" 1921	2,451	57,158,397	73,299,111	559	33,976,790
" 1920	1,078	18,569,516	26,494,301	255	15,871,216
" 1919	755	10,741,441	16,256,259	213	10,234,477
" 1918	873	11,251,341	14,502,477	232	8,248,807
" 1917	1,097	13,051,900	18,241,465	261	7,455,094
" 1916	1,685	19,670,542	25,069,534	363	8,796,646
" 1915	2,661	39,526,358	41,162,321	655	13,877,414

Province.	Trading.		Other Commercial.		Banking.	
	No.	Liabilities.	No.	Liabilities.	No.	Liabilities.
		$		$		$
Prince Edward Island	1	19,318	–	–	–	–
Nova Scotia	47	486,934	4	179,007	–	–
New Brunswick	25	385,465	3	18,283	–	–
Quebec	723	9,176,512	109	6,261,587	–	–
Ontario	447	4,618,660	57	3,036,098	–	–
Manitoba	177	2,248,574	14	1,367,513	–	–
Saskatchewan	204	2,174,944	10	1,052,634	–	–
Alberta	105	756,655	15	707,764	–	–
British Columbia	130	1,104,665	19	1,460,360	–	–
Totals, 1930	**1,859**	**20,971,727**	**231**	**14,083,246**	–	–
Newfoundland	29	869,102	3	17,500	–	–

2.—Commercial Failures in Canada, by Provinces and Classes, for the calendar year 1930, with Totals for 1915-1929 [From Dun's Review]—concluded.

Province.	Trading.		Other Commercial.		Banking.	
	No.	Liabilities.	No.	Liabilities.	No.	Liabilities.
		$		$		$
Totals, 1929	1,546	17,435,263	140	7,037,962	–	–
" 1928	1,469	24,540,931	145	11,846,285	–	–
" 1927	1,544	16,566,799	136	2,547,395	–	–
" 1926	1,548	17,320,905	121	3,296,223	–	–
" 1925	1,693	19,514,049	115	2,207,262	–	–
" 1924	1,720	21,324,089	129	6,664,228	1	100,000
" 1923	2,319	31,339,763	136	2,679,287	1	18,500,000
" 1922	2,717	33,004,203	121	5,983,965	4	222,480
" 1921	1,739	29,886,569	153	9,435,752	1	45,233
" 1920	771	7,704,505	52	2,918,580	–	–
" 1919	494	4,475,628	48	1,546,154	–	–
" 1918	590	5,142,397	51	1,111,273	–	–
" 1917	777	8,417,239	59	2,369,132	–	–
" 1916	1,237	12,290,368	85	3,982,520	–	–
" 1915	1,888	21,696,890	118	5,558,017	1	150,000

3.—Commercial Failures in Canada and Newfoundland, by Branches of Business, calendar years 1928-1930 [From Dun's Review].

Branch of Business.	1928.		1929.		1930.	
	No.	Liabilities.	No.	Liabilities.	No.	Liabilities.
		$		$		$
Manufacturers—						
Iron and foundries	7	1,547,459	7	104,362	8	514,731
Machinery and tools	21	348,162	26	993,650	27	1,754,991
Woollens, carpets, etc	9	263,426	5	224,492	3	99,187
Cotton, hosiery, etc	–	–	2	206,414	2	59,200
Lumber, carpenters	95	3,565,257	98	3,794,628	111	5,711,336
Clothing, millinery	87	1,144,401	128	2,042,500	124	2,172,946
Hats, gloves and furs	18	526,745	34	887,493	32	416,048
Chemicals and drugs	8	221,055	8	267,100	13	141,475
Paints and oils	–	–	2	38,163	–	–
Printing and engraving	14	348,443	25	146,289	16	177,045
Milling and bakers	30	676,064	37	385,803	35	4,334,370
Leather, shoes, etc	20	2,015,260	25	781,774	38	906,881
Liquors and tobacco	9	380,479	12	876,000	11	724,814
Glass, earthenware	7	707,707	14	635,901	11	173,974
All other	181	5,288,525	201	8,582,845	188	4,062,920
Totals, Manufacturers	**506**	**17,032,983**	**624**	**19,967,414**	**619**	**21,249,918**
Traders—						
General stores	150	1,855,062	183	1,853,725	250	3,871,344
Groceries and meats	396	2,432,410	376	2,537,094	371	2,269,492
Hotels, restaurants	93	1,287,405	107	1,147,014	167	1,595,464
Liquors and tobacco	28	144,682	23	151,569	21	68,743
Clothing, furnishings	195	2,250,828	213	1,989,407	293	3,217,499
Dry goods and carpets	138	8,382,742	150	3,173,000	169	2,329,543
Shoes, rubbers and trunks	59	1,025,825	57	739,406	68	779,540
Furniture, crockery	27	532,703	26	407,914	37	437,295
Hardware, stoves and tools	50	564,678	43	497,703	47	452,706
Chemicals and drugs	44	325,503	41	311,122	46	385,863
Paints and oils	1	590,932	2	15,550	1	500
Jewellery and clocks	31	587,527	28	160,791	46	347,752
Books and papers	17	228,270	15	129,721	11	113,457
Hats, furs and gloves	29	1,009,862	27	804,670	27	655,203
All other	211	3,322,502	255	3,516,577	334	5,316,428
Totals, Traders	**1,469**	**24,540,931**	**1,546**	**17,435,263**	**1,888**	**21,840,829**
Agents and Brokers	**145**	**11,846,285**	**140**	**7,037,962**	**234**	**14,100,746**
Grand Totals	**2,120**	**53,420,199**	**2,310**	**44,440,639**	**2,741**	**57,191,493**

Bradstreet's Record of Commercial Failures.—The number of commercial failures in Canada, together with the assets and liabilities, is shown by provinces for 1929 and 1930 in Table **4**, according to Bradstreet's records.

4.—Commercial Failures in Canada, by Provinces, calendar years 1929 and 1930 [From Bradstreet's].

Province.	Number of Failures.		Assets.		Liabilities.	
	1929.	1930.	1929.	1930.	1929.	1930.
	No.	No.	$	$	$	$
Prince Edward Island	1	–	2,000	–	6,043	–
Nova Scotia	74	58	357,927	222,392	756,628	645,545
New Brunswick	48	31	251,121	211,141	481,480	372,412
Quebec	951	960	4,163,844	6,451,709	14,671,968	17,174,503
Ontario	577	715	4,274,986	7,151,091	10,870,722	15,798,547
Manitoba	184	224	858,182	1,086,677	2,223,284	2,748,311
Saskatchewan	101	201	662,820	984,017	1,203,677	1,873,990
Alberta	93	113	759,296	1,258,111	1,150,934	1,539,338
British Columbia	62	166	197,408	2,089,198	626,164	5,576,799
Canada	**2,091**	**2,468**	**11,527,584**	**19,454,336**	**31,990,900**	**45,729,445**

Causes of Failures.—An interesting study of the causes of commercial failures in Canada and the United States is published annually by Bradstreet's. The percentage analysis shows that "incompetence" caused a larger percentage of failures in the United States than in Canada, while "inexperience" and "competition" were more important causes of failures in Canada than in the United States. "Lack of capital" is given as the principal cause of failure in both countries.

5.—Causes of Failures in Canada and the United States, by Numbers and Percentages, calendar years 1929 and 1930 [From Bradstreet's].

CANADA (including Newfoundland and St. Pierre-Miquelon).

Failure due to—	Number.		Assets.		Liabilities.	
	1929.	1930.	1929.	1930.	1929.	1930.
	No.	No.	$	$	$	$
Incompetence	513	413	1,873,817	2,774,334	4,941,947	5,509,590
Inexperience	160	240	365,270	1,595,884	1,628,737	5,102,642
Lack of capital	728	1,054	5,309,646	9,198,675	14,354,711	18,978,466
Unwise credits	117	55	457,243	293,293	1,859,093	926,368
Failures of others	10	8	71,772	42,432	234,063	117,666
Extravagance	17	11	69,402	17,864	344,809	64,882
Neglect	24	18	68,747	308,320	219,404	555,982
Competition	136	105	560,112	513,846	1,728,354	1,384,905
Specific conditions	315	400	2,344,408	3,216,506	4,922,918	6,500,797
Speculation	16	11	170,165	1,178,525	555,213	1,683,803
Fraud	66	89	260,102	1,445,793	1,273,501	4,476,698
Totals	**2,102**	**2,404**	**11,559,684**	**20,585,472**	**32,062,750**	**45,301,799**
UNITED STATES.						
Incompetence	6,191	6,331	55,482,317	102,794,377	113,715,081	185,243,961
Inexperience	974	1,268	7,659,047	18,386,366	14,147,320	31,410,804
Lack of capital	7,325	7,711	118,432,890	100,190,899	207,590,603	214,798,476
Unwise credits	412	835	36,928,727	19,577,361	47,407,097	32,040,819
Failures of others	295	825	33,266,962	57,888,434	48,982,382	95,013,326
Extravagance	98	153	921,693	530,795	2,474,513	3,560,185
Neglect	172	199	853,627	1,370,209	2,444,382	3,349,005
Competition	763	827	5,153,275	17,140,587	14,029,726	29,863,047
Specific conditions	3,073	5,383	82,966,937	627,643,536	157,369,565	795,293,673
Speculation	68	288	4,343,577	10,642,543	7,364,729	25,887,540
Fraud	332	287	5,105,304	11,134,585	12,521,747	24,978,609
Totals	**19,703**	**24,107**	**351,114,356**	**967,299,692**	**628,047,146**	**1,441,439,445**

5.—Causes of Failures in Canada and the United States, by Numbers and Percentages, calendar years 1929 and 1930 [From Bradstreet's]—concluded.

PERCENTAGES OF NUMBER OF FAILURES AND OF LIABILITIES, CLASSIFIED BY CAUSES.

Failure due to—	Canada.[1]				United States.			
	Number.		Liabilities.		Number.		Liabilities.	
	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Incompetence	24·4	17·2	15·4	12·2	31·4	26·3	18·1	12·8
Inexperience	7·6	10·0	5·1	11·3	4·9	5·3	2·2	2·2
Lack of capital	34·6	43·8	44·8	41·9	37·2	31·6	33·1	14·9
Unwise credits	5·6	2·3	5·8	2·0	2·1	3·5	7·5	2·2
Failures of others	0·5	0·3	0·7	0·3	1·5	3·4	7·8	6·7
Extravagance	0·8	0·5	1·1	0·1	0·5	0·7	0·4	0·2
Neglect	1·1	0·7	0·7	1·2	0·9	0·9	0·4	0·2
Competition	6·5	4·4	5·4	3·1	3·9	3·5	2·2	2·1
Specific conditions	15·0	16·6	15·3	14·3	15·6	22·4	25·1	55·2
Speculation	0·8	0·5	1·7	3·7	0·3	1·2	1·2	1·8
Fraud	3·1	3·7	4·0	9·9	1·7	1·2	2·0	1·7

[1] Includes Newfoundland and St. Pierre Miquelon.

Assignments under the Bankruptcy and Winding Up Acts.—Under the Bankruptcy and Winding Up Acts (R.S.C., 1927, cc. 11 and 213) certain documents relating to assignments have since 1920 been forwarded to the Dominion Statistician for statistical analysis. Table **6** gives the resulting figures of failures by provinces in 1922 and subsequent years, while Table **7** classifies them by branches of business. Table **8** gives the assets and liabilities of the assignors. A detailed analysis of the 1930 failures, by provinces and branches of business, is made in Table **9**.

6.—Commercial Failures in Canada, by Provinces, calendar years 1922-1930.

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total.
1922	15	121	131	1,589	1,058	284	272	299	156	3,925
1923	16	155	67	1,181	970	258	280	323	158	3,408
1924	3	69	67	907	835	100	131	150	57	2,319
1925	4	71	67	758	721	85	77	139	74	1,996
1926	4	63	74	654	655	84	68	113	58	1,773
1927	4	66	74	658	681	97	54	135	72	1,841
1928	4	90	56	767	758	103	63	126	70	2,037
1929	1	71	61	927	762	91	84	101	69	2,167
1930	3	61	45	1,011	776	113	146	152	95	2,402

7.—Commercial Failures in Canada, by Branches of Business, calendar years 1924-1930.

Year.	Trade.	Manufactures.	Agriculture.	Logging, Fishing.	Mining.	Construction.	Transportation and Public Utilities.	Finance.	Service.	Not classified.	Total.
1924	1,317	329	204	14	22	44	36	8	129	216	2,319
1925	1,026	403	158	14	15	50	21	5	220	84	1,996
1926	805	390	135	27	20	52	34	1	225	84	1,773
1927	818	430	116	30	26	63	36	–	243	79	1,841
1928	884	505	108	31	23	70	45	5	263	103	2,037
1929	1,100	443	125	4	11	61	21	5	239	158	2,167
1930	1,204	488	115	12	9	55	48	29	283	159	2,402

8.—Estimated Assets and Liabilities of Commercial Failures in Canada, calendar years 1922-1930.

Year.	Estimated Grand Total Assets.	Estimated Grand Total Liabilities.
	$	$
1922	52,336,488	63,692,219
1923	62,127,489	61,617,527
1924	43,194,035	48,105,397
1925	26,968,371	32,153,697
1926	24,676,661	32,291,125
1927	23,197,894	30,634,469
1928	26,583,462	32,455,437
1929	32,064,027	38,747,638
1930	44,048,171	48,164,065

9.—Commercial Failures in Canada, by Provinces and Branches of Business, calendar year 1930, with Totals for 1929.

Branch of Business.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total for 1930.	Total for 1929.
Trade—											
General Stores	2	5	–	56	32	19	27	25	1	167	191
Grocery	–	7	5	47	32	8	12	13	3	127	126
Confectionery	–	2	2	25	22	1	6	3	1	62	38
Drink and Tobacco	–	1	–	14	3	–	–	–	1	19	17
Fish and Meat	–	5	3	34	24	1	2	9	2	80	70
Boots and Shoes	–	1	1	29	27	7	6	–	1	72	57
Dry Goods	–	3	3	39	39	4	6	4	2	100	99
Clothing	–	7	2	47	53	13	6	10	6	144	146
Furniture	–	–	–	11	7	–	2	–	2	22	26
Books and Stationery	–	1	–	12	9	–	2	–	1	25	16
Automobile	–	1	1	16	17	3	2	7	2	49	27
Hardware	–	–	–	15	13	4	3	2	–	37	37
Electric Apparatus	–	–	–	11	5	–	2	–	3	21	25
Jewellery	–	2	–	14	17	2	3	2	2	42	19
Coal and Wood	–	1	–	22	12	2	1	1	–	39	38
Drugs and Chemicals	–	1	–	22	15	–	7	6	1	52	34
Miscellaneous	–	3	8	53	47	4	14	6	11	146	135
Totals	2	40	25	467	374	68	101	88	39	1,204	1,101
Manufacture—											
Vegetable Foods	–	–	–	29	23	3	1	6	1	63	54
Drink and Tobacco	–	–	–	8	1	–	1	–	1	11	7
Animal Foods	–	1	–	11	8	–	–	–	–	20	16
Fur and Leather	–	–	–	34	26	–	1	5	–	66	62
Pulp and Paper	–	–	–	1	2	–	–	–	–	3	1
Textiles	–	–	–	8	8	–	1	–	–	17	22
Clothing	–	–	–	53	41	1	2	3	4	107	100
Lumber and Manufactures	–	2	1	29	17	–	–	3	5	56	41
Iron and Steel	–	2	–	1	2	–	–	–	–	3	10
Non-ferrous Metals	–	–	–	9	4	1	1	2	3	20	26
Non-metallic Minerals	–	–	1	12	11	–	–	–	–	24	22
Drugs and Chemicals	–	–	–	1	1	–	–	–	–	2	2
Miscellaneous	–	–	1	48	37	2	5	1	2	96	80
Totals	–	5	3	244	181	7	12	20	16	488	443
Service—											
Garages	–	2	1	23	17	4	–	7	6	60	40
Other Custom and Repairs	–	–	1	22	16	3	1	2	2	47	21
Personal Service	–	3	5	30	21	12	15	10	8	104	92
Professional Service	–	–	–	7	4	1	–	–	1	13	26
Recreational Service	–	–	1	3	5	1	1	–	–	11	10
Business Service	–	1	–	27	14	1	1	2	2	48	50
Totals	–	6	8	112	77	22	18	21	19	283	239
Other—											
Agriculture	1	3	1	48	44	6	4	8	–	115	125
Mining	–	–	–	2	4	–	–	–	3	9	11
Logging, Fishing, Trapping	–	–	–	7	1	–	–	–	4	12	4
Construction	–	–	–	28	16	3	3	2	3	55	61
Transportation and Public Utilities	–	–	–	22	19	1	–	5	1	48	21
Finance	–	1	1	9	10	–	2	2	4	29	5
Totals	1	4	2	116	94	10	9	17	15	268	227
Not Classified	–	6	7	72	50	6	6	6	6	159	157
Grand Totals	**3**	**61**	**45**	**1,011**	**776**	**113**	**146**	**152**	**95**	**2,402**	**2,167**

CHAPTER XXV.—EDUCATION.

Section 1.—Public School and Higher Education.[1]

Throughout the Dominion of Canada public education is a matter of provincial concern. Before Confederation, the maritime colonies were separated from Ontario by French-speaking Quebec, and in each of these an educational system specially adapted to the local conditions had come into existence. When Confederation was under consideration, the protection of existing vested rights was the predominant consideration. As a result, section 93 of the British North America Act, which embodies the Canadian constitution in so far as that constitution is a written one, provides that in and for each province the Legislature may exclusively make laws in respect of education, except that " nothing in any such law shall prejudicially affect any right or privilege with respect to denominational schools which any class of persons have by law in the province at the union".

Inasmuch as the administration of public education is one of the chief functions of Provincial Governments, there is in each of the provinces except Quebec a Department of Education administered either by a member of the Provincial Executive Council or by the Executive Council as a whole. In practice, however, the routine administration is in the hands of the permanent officials of the Department of Education, who are members of the permanent civil service. In Quebec the Superintendent of Education, appointed by the Government, is *ex officio* President of the Council of Public Instruction; the link between the Department of Public Instruction and the Government is the Provincial Secretary; there are also two deputy heads, called the French and English Secretaries of the Department.

Since the Departments of Education are permanent authorities, controlled as to details of administration by permanent officials, educational policy is relatively permanent; further, the control of the Governments over education throughout the provinces is relatively stronger than in the United States. A capable Deputy

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[1] Revised by M. C. MacLean, M.A., F.S.S., Chief, Education Statistics Branch, Dominion Bureau of Statistics. This Branch is concerned with compiling and publishing comparable data relating to schools and colleges, both public and private, throughout Canada, and to this end co-operates with the Provincial Departments of Education. A list of the publications of this Branch will be found in Chapter XXVIII, Section 1, under "Education".

Minister or Superintendent of Education impresses his personality and his views upon the whole system of his province, especially as in practice he controls the payment of government grants, which constitute, on the average, about 14 p.c. of the expenditure applied to educational purposes.

The Department of Education in each province naturally has its headquarters at the capital of the province. Its local representatives are the school inspectors, who are appointed and paid by the Provincial Governments, except for the "public" and "separate" schools in Ontario, where they are appointed by the county or city municipality from a list approved by the province (in all but unorganized districts), and where the cities receive a grant from the province for inspection purposes in place of having inspectors' salaries paid direct.

Education in Quebec.—In Quebec there are two distinct systems of education, in each of which the teaching of religion takes a prominent position—the Protestant and the Roman Catholic systems. In the former, which is under the control of the Protestant Committee of the Council of Public Instruction, with an English Secretary, the curriculum and the general system of education is similar to that in the other provinces, except that the highest grade is Grade XI, from which students are matriculated to McGill University and Bishop's University, the two Protestant English-speaking universities of the province.

In the Roman Catholic schools, which are mainly French-speaking, as the Protestant schools are English-speaking, the administration is in the hands of the Catholic Committee of the Council of Public Instruction, with a French Secretary. General elementary and continuation or "complementary" training is given by means of a curriculum, extending over a preparatory course of six "years" of an elementary course and two "years" of a complementary course. Some of these "years" require more than a year to complete, the work of the "eighth year" corresponding in a general way to the work of Grade X, as that work is usually defined.

Recent Developments in Education.—One of the outstanding tendencies of the past few years has been the increase in the proportion of students reaching the higher grades in Canadian schools. In 1921 the proportion of the total enrolment of ordinary publicly-controlled schools in the high-school grades was less than 8 p.c.; by 1929 it had increased almost to 12 p.c. This is the result of a number of factors, foremost among them being the raising of compulsory attendance ages and more rigid enforcement of attendance laws. Moreover, the higher grades are being reached at earlier ages, the average (median) age of pupils in what is usually the final year of high school (junior matriculation) being almost one-half of a year less in 1929 than in 1924 in the seven provinces for which age-grade data are compiled.

Raising of standards in the teaching profession has been a pronounced characteristic of recent years, and one that augurs well for the enhanced efficiency of the schools. Numerous factors are concerned and it is often difficult to say whether they are more a cause or a result. Each of the provinces and the Dominion as a whole now possess teachers' professional organizations, severally termed federations, alliances, unions, or associations, which have held consistently before them the ideal of improvement within the profession. Teachers without professional training have in most of the provinces been reduced to very small numbers, while normal-school courses have been generally lengthened and the requirements for admission gradually raised. Summer-school courses, enabling teachers to improve both their academic and professional standing, have become increasingly numerous and well-patronized. Teachers' pension or superannuation schemes have become operative in seven of the provinces, most of them within the last few years, adding much to the stability of the profession.

Summary Statistics of Education.—The statistical tables on education in Canada commence with a statistical summary (Table 1), which shows that, in the academic year ended in 1929, there were 2,387,057 pupils in attendance at educational institutions in Canada, or 24·4 p.c. of the estimated 1929 population. Of the above, 2,080,949 were enrolled in ordinary day schools under provincial control, the average daily attendance numbering about 1,647,871. Those attending vocational schools—agricultural, commercial, industrial and other technical schools—numbered 122,671. There were 18,600 students in private business colleges, and 74,238 in other private schools under college grade. University students in regular courses numbered 28,870 and college students in regular courses 9,128. Students in classical colleges numbered 10,894.

There were, in 1929, 68,888 teachers in schools under public control (including the "independent" schools in Quebec), 13,490 males and 55,398 females. The total expenditure on schools under public control was $138,223,885, of which Governments contributed $19,038,719; the difference was made up by local taxation. The expenditure on ordinary public day schools has increased by 36·2 p.c. since 1921, while the enrolment has increased by 15·6 p.c. This more than proportionate increase in expenditure is to some degree accounted for by increases in teachers' salaries, but increased accommodation, improvements in school equipment, and maintenance also accounted for a share. The proportion which the Provincial Governments bear of this expenditure has risen much more rapidly than that borne by the municipalities.

1.—Summary of Education in Canada

NUMBER OF PUPILS ATTENDING

No.	Type of Institution.	P.E.I.	N.S.	N.B.
1	Ordinary day schools under public control	17,180	113,309	83,336
2	Agricultural, commercial, industrial and other technical schools, including all evening schools	1,240	5,158[4]	3,072[5]
3	Schools for teacher-training	195	916[12]	415[13]
4	Indian schools	29	267	285
5	Schools for the blind and deaf	11[21]	170	53[21]
6	Business colleges (private)	–	429	146
7	Private elementary and secondary schools	302	1,565	343
8	Preparatory courses at universities and colleges	361	441	512
9	Short, special and correspondence courses at universities and colleges[29]	35	432	–
10	Classical colleges	–	–	–
11	Affiliated, professional and technical colleges (regular courses)	16	526[16]	51
12	Universities (regular courses)[31]	71	1,694	1,022
	Grand Totals (excluding duplicates)	**19,440**	**124,907**	**89,235**
	Population in 1921	**88,615**	**523,837**	**387,876**
	Population in 1926	–	–	–
13	Elementary grades[33]	15,634	102,125	79,946[34]
14	Secondary and higher grades[33]	3,682	18,829	7,442[34]

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[1] Including 509,875 in primary schools and 595 in nursery schools under control of Commissioners and Trustees. [2] Including public, separate, continuation and high schools and collegiate institutes all day courses—figures of calendar year 1928 for the public and separate schools and of the school year 1928-29 for the other schools. See also Note 2, p. 962. [3] In Tables 2, etc. the total given includes 3,615 in private schools; the above table includes only schools under control. [4] Including all the students of the technical college except those following regular degree course. [5] Including 1,034 in day and 2,038 in evening technical schools. [6] Including 6,426 in night schools, 2,298 in dressmaking schools, 4,100 in schools of arts and trades, 45 in Rangers' School, 46 in intermediate agricultural school, and 60 in school for historic guides—figures of 1927-28. [7] Including 26,730 in day and 41,593 in evening courses at industrial technical and art schools, 3,346 in night elementary schools and 3,128 in night high schools—figures of 1928-29. [8] Including 2,597 in day and 3,160 in correspondence and evening technical schools. [9] Including 1,040 in day and 850 in evening technical schools. [10] Including 2,363 in day and 2,901 in evening technical schools and 246 in correspondence department. [11] Including 4,432 in day, 7,629 in evening and 211 in correspondence vocational courses. [12] Including 254 in normal college, and 662 in summer training courses; 58 in university training courses are included under universities. [13] Including 345 in normal school and 70 in vocational teacher-training courses. [14] Including normal schools, 1,638, model schools, 96, vocational-teacher-training, 269 over and above extra-mural students. [15] Including 536 in normal schools and 14 in vocational teacher-training but not including those who are included under item 9. [16] Excluding duplicates with universities. [17] Including a number who are entered under item 9. [18] Including regular normal schools 339, vocational teacher-training 78, but not including university classes for graduates, 421 in departmental summer school for teachers or university summer school, most of whom are included under item 9. [19] Not added in the totals of Quebec or the grand total of all schools below as it is not certain whether or not they are included elsewhere. [20] The total includes 206 in Northwest Territories and 153 in Yukon. [21] In institutions at Halifax, N.S., but supported by the province. [22] Including 467 blind and 1,276 deaf. For further details see Table 87. [23] Including 55,970 in "independent primary schools" (i.e., independent of the control of commissioners and trustees) and 3,215 in independent nursery schools. [24] Included with the figures of classical colleges and private schools. [25] Exclusive of courses included in item 2. [26] Including 2,123 in evening courses at technical schools; 383 in special courses at technical Schools; 458 in short courses at agricultural colleges and 818 at evening and correspondence courses in the school of H.C.S. [27] Including classical colleges, 10,136 and classical independent schools 758. [28] Including 228 in dairy schools, 947 in regular courses at the technical schools, 269 in regular courses at the colleges of agriculture, 128 in regular courses at the School of H.C.S., 465 in independent schools where superior education is given, 793 in the schools of fine arts, 150 in polytechnic school, 237 in protestant theological colleges, 739 in Monument National School and 1,620 in Institute of Pedagogy 1927-28. [29] Not including

by Provinces, 1929, or Latest Year Reported.

EDUCATIONAL INSTITUTIONS.

Quebec.*	Ontario.	Manitoba.	Sask.	Alberta.	B.C.	Total.	No.
510,470[1]	708,081[2]	150,517	227,263	161,235[3]	109,558	2,080,949	1
12,975[6]	74,797[7]	5,757[8]	1,890[9]	5,510[10]	12,272[11]	122,671	2
1,950	2,003[14]	550[15]	2,677	803[17]	417[18]	9,926	3
(1,556)[19]	3,897	2,307	2,031	1,472	3,144	15,347[20]	4
740	440	113	79	54	83	1,743[22]	5
(2,904)[19]	9,792	1,608	409	2,692	620	18,600	6
59,185[23]	6,406	–	2,053	3,615	769	74,238	7
[24]	2,500	382	377	244	4	4,821	8
3,782[26]	6,890	1,022	1,830	164[25]	175	14,330	9
10,894[27]	–	–	–	–	–	10,894	10
5,576[28]	2,010	448	194	31	276	9,128[16]	11
6,211[30]	11,614	3,487	1,225	1,356	2,190	28,870	12
611,783	**828,430**	**166,191**	**240,028**	**177,176**	**129,508**	**2,387,057**[32]	
2,361,199	**2,933,662**	**610,118**	**757,510**	**588,454**	**524,582**	**8,788,483**	
–	–	**639,056**	**821 042**	**607,584**	–	–	
547,927[35]	614,397	137,532	207,120	146,889	97,088	1,948,658	13
63,116	163,356	25,386	29,725	27,086	24,497	363,119	14

degree courses which are included under items 11 and 12. [30]Excluding preparatory and short courses and such other figures as have already been included in items 10 and 11. [31]All these are of university standard. [32]Excluding business colleges and Indian schools in Quebec and including Indian schools in N.W.T. and Yukon. [33]In calculating the numbers in elementary and secondary grades, night, special and part-time technical schools and schools for the blind and deaf are left out of the reckoning, except where the night schools were known to be high schools. The numbers in elementary grades in public and private ordinary schools also in Indian schools are known. Business college courses are assumed to be of secondary rank, also preparatory and short courses at universities and colleges, except in the case of certain affiliated schools in Ontario, where allowance was made for the number in elementary grades. The regular courses are clearly of higher grade than secondary. [34]Approximately. Since Grade VIII in New Brunswick included high school subjects, the enrolment in this grade (about 5,668) might be added to item 14 and deducted from item 13 in which case the number in elementary grades would read 74,278 and in secondary and higher grades 13,110. [35]Approximately.

*General Note.—

To avoid the confusion that would result from giving totals different from those given in the provincial reports the figures of 1928 are used throughout for Quebec. In all cases except the primary and nursery schools the figures of 1929 are also published in the provincial reports although the 1928 figures are used in making up their summary. The 1929 figures for each of the items in the above table except items 1 and 7 are as follows:—

Technical and night schools. (See item 2.)	10,062
Normal schools	1,921
Schools for the blind and deaf. (See item 5.)	689
Classical colleges. (See item 10.)	11,200
Short and special courses, etc. (See item 9.)	4,526
Affiliated colleges, etc. (See item 11.)	6,044
Universities. (See item 12.) (Approx.)	7,582

Further, to avoid confusion, the short courses for teachers at universities and colleges are entered under item 9 instead of item 3. There were about 2,500 teachers in these short courses who might be added to the 9,926 in item 3 making about 12,500 in all in teacher-training. There were in all about 81,000 teachers and professors in Canada.

1.—Summary of Education in Canada, by Provinces,

DISTRIBUTION AND ATTENDANCE OF PUPILS IN

No.	Item.	P.E.I.	N.S.	N.B.
1	Number of boys enrolled	8,616	56,142	41,135
2	Number of girls enrolled	8,564	57,032	42,201
3	Number of pupils in urban schools	6,396	74,166	44,840
4	Number of pupils in rural schools	10,784	39,008	38,496
5	Average daily attendance	12,144	84,275	62,408
6	Average (median) number of days each pupil attended during year	153	162	164
7	Average number of days schools were open during year	191	191	195
8	Percentage of average attendance to total enrolment	70·6	74·4	74·9

TEACHERS, ACCOMMODATION AND EXPENDITURE

No.	Item.	P.E.I.	N.S.	N.B.
1	Teachers in schools under public control	618	3,382	2,636
2	Male teachers	132	296	257
3	Female teachers	486	3,086	2,379
4	Number of school districts	472	1,756	1,532
5	Number of school houses	472	-	-
6	Number of class-rooms in operation	618	3,160	2,467
7	Number of rural schools	417	1,436	1,373
8	Average number of pupils to a class-room	28	36	34
9	Total expenditure on education $	485,138	3,948,230	3,068,670
10	Total expenditure on education by Governments $	297,369	875,007[13]	478,964
11	Total expenditure on education by ratepayers, etc $	187,769	3,073,223	2,589,706
12	Expenditure on teachers' salaries $	358,694[14]	-	-

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[1] Including independent as well as controlled primary schools. [2]Including day, elementary and secondary schools; the latter include day vocational full time pupils. About 32,500 pupils are included above who are in a sense duplicates between elementary and secondary schools; i.e., counted in the former before mid-summer and in the latter after mid-summer. The fact remains however that in the interests of comparability with other provinces they cannot be omitted. [3]Of these 38 were high schools and 32 were superior schools. [4]Primary schools under control and independent. [5]The financial items in Ontario include day and evening vocational schools. [6]"Districts". The number of municipalities was 1,830. Schools under control only. [7]Estimate only. There were 5,693 rural public schools sections; 26 cities and 140 towns with public, and 25 cities, 76 towns and 444 rural separate schools; 161 village public and 22 village separate schools assumed to represent so many districts; 216 continuation schools; 189 cities and

1929, or Latest Year Reported—concluded.

ORDINARY DAY SCHOOLS UNDER PUBLIC CONTROL.

Quebec.	Ontario.	Manitoba.	Sask.	Alberta.	B.C.	Total.	No.
278,038[1]	370,045[2]	75,121	114,043	81,423[1]	55,309	1,079,872	1
287,807[1]	361,213[2]	75,396	113,220	83,427[1]	54,249	1,083,109	2
-	486,093[2]	108,906	98,439	87,185	68,246	-	3
-	245,165[2]	41,611	128,824	77,665	41,312	-	4
457,039	535,691[2]	116,766	161,658	123,480	94,410	1,647,871	5
-	-	158[17]	166	166	-	-	6
-	-	183[17]	196	188	-	-	7
80·7	73·3[2]	77·5	71·1	74·8	86·1	76·0	8

IN SCHOOLS UNDER PUBLIC CONTROL.

Quebec.[4]	Ontario.[5]	Manitoba.	Sask.	Alberta.	B.C.	Total.	No.
20,246	19,659[2]	4,272	8,464	5,827	3,784	68,888	1
3,500	3,828[2]	832	2,080	1,508	1,057	13,490	2
16,746	15,831[2]	3,440	6,384	4,319	2,727	55,398	3
7,657[6]	6,992[7]	2,200[8]	4,826[9]	3,497[8]	792	29,724	4
7,914	7,656	2,011	-	-	1,189	-	5
18,000[15]	18,000[15]	4,166	6,545	5,345	3,511	61,812[16]	6
-	6,137	-	-	2,972	1,017[3]	-	7
31	-	36	35	31	31	-	8
30,881,878	52,389,674	9,423,803[11]	15,574,106[11]	11,866,815[11]	10,585,571[12]	138,223,885	9
4,152,312	5,100,983	1,208,809	2,402,621	1,321,158	3,201,496[12]	19,038,719	10
26,729,566[10]	47,288,691	8,214,994	13,171,485	10,545,657	7,384,075	119,185,166	11
-	27,002,089	5,167,687	8,023,857	6,243,085	-	-	12

towns with high schools and collegiate institutes. Assuming that each city and town and each village school, public and separate, and each secondary school represented a school section, the total number of sections would be 6,992 as above. [8] In existence. [9] In existence, 1928. [10] Of this amount $9,600,313 was contributed by subsidized independent schools and higher institutions. [11] Exclusive of promissory notes. [12] Exclusive of $564,425 to provincial university. [13] Including $153,488 on technical education. [14] Including Government expenditure on salaries of teachers of general schools and P.W.C. ($266,772) and total supplement by districts ($91,922). [15] Approximately. The number publicly controlled was 15,845. The number of teachers in independent schools was 3,522. [16] Approximately. [17] This figure is considerably lower than usual as a result of Winnipeg schools being closed throughout September on account of contagious disease.

Subsection 1.—Elementary and Secondary Education.

It is considered that the best general test of the efficiency of public general education in Canada is furnished by the statistics of Table **2**, showing the 1929 age-grade distribution of 1,458,011 pupils in the provincially-controlled schools of seven provinces. Many other tables of this form, analysing age-grade distribution by provinces, by sex, and by rural and urban areas and graded or ungraded schools, may be consulted in the "Annual Survey of Education in Canada, 1929", pp. 20-41.

2.—Provincially-Controlled Schools in Canada; Distribution of 1,458,011 Pupils in Seven Provinces, by Age and Grade, 1929.

Age.	Elementary Grades.								
	K. and K.P.[1]	I.	II.	III.	IV.	V.	VI.	VII.	VIII.
4	–	175	1	–	–	–	–	–	–
5	1,552	6,501	51	–	–	–	–	–	–
6	16,982	58,501	2,989	222	17	–	–	–	–
7	7,278	99,867	27,272	3,896	351	23	6	5	7
8	1,414	60,098	60,741	24,520	5,961	456	25	1	1
9	344	24,037	46,733	43,433	32,401	6,697	562	47	8
10	77	8,644	20,957	29,273	44,509	30,997	6,246	749	112
11	34	3,865	9,335	15,736	31,929	44,529	27,374	6,358	1,366
12	14	1,846	4,318	8,100	18,678	33,602	39,261	23,795	8,783
13	8	1,048	2,154	4,250	10,429	21,230	31,722	33,733	26,493
Totals, 7-13	9,169	199,405	171,510	129,208	144,258	137,534	105,196	64,688	36,770
14	16	562	1,122	2,085	5,395	11,434	19,708	27,129	35,706
15	–	322	493	974	2,306	5,234	9,624	15,413	27,161
16	3	122	173	317	720	1,821	3,334	6,015	12,647
17	–	66	80	107	230	503	1,054	1,909	4,254
Totals, 14-17	19	1,072	1,868	3,483	8,651	18,992	33,720	50,466	79,768
18	2	27	26	25	67	84	172	284	731
19	5	87	26	30	61	51	67	74	195
Grand Totals	**27,729**	**265,768**	**176,471**	**132,968**	**153,054**	**156,661**	**139,155**	**115,513**	**117,464**

Age.	Secondary Grades.					Totals.			Grand Total.
	IX.	X.	XI.	XII.	Special.	Elementary.	Secondary.	Un-classified.	
4	–	–	–	–	–	176	–	–	176
5	–	–	–	–	–	8,104	–	–	8,104
6	–	–	–	–	–	78,711	–	–	78,711
7	–	–	–	–	–	138,705	–	–	138,705
8	–	–	–	–	–	153,217	–	–	153,217
9	1	–	–	–	–	154,262	1	–	154,263
10	27	1	–	–	–	141,564	28	–	141,592
11	511	31	–	–	–	140,526	542	–	141,068
12	3,898	458	6	–	–	138,397	4,362	–	142,759
13	13,394	3,365	467	6	–	131,067	17,232	–	148,299
Totals, 7-13.	17,831	3,855	473	6	–	997,738	22,165	–	1,019,903
14	22,167	10,279	2,702	106	12	103,157	35,266	–	138,423
15	19,603	14,860	8,266	540	96	61,527	43,365	–	104,892
16	10,399	11,351	11,215	1,852	192	25,152	35,009	–	60,161
17	3,684	5,586	8,626	3,136	248	8,203	21,280	–	29,483
Totals, 14-17	55,853	42,076	30,809	5,634	548	198,039	134,920	–	332,959
18	964	1,957	4,409	2,715	161	1,418	10,206	–	11,624
19	438	818	2,191	2,277	213	596	5,937	–	6,533
Grand Totals	**75,086**	**48,706**	**37,882**	**10,632**	**922**	**1,284,783**	**173,228**	–	**1,458,011**

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[1] Kindergarten and kindergarten-primary.

General elementary and secondary education throughout the Dominion, in so far as it is provincially-controlled, is carried on, except in Quebec, in free schools supported by general taxation. These schools may be divided into 12 grades, 8 of which are normally considered to be elementary and 4 secondary; the average pupil takes one school year to complete each of these 12 grades, so that the average pupil, entering school at 6 years of age, would finish his secondary school course at 18.

A historical summary of the enrolment and average attendance in provincially-controlled schools from 1824 to 1929 is given by provinces in Table **3.** The totals of pupils enrolled in all provinces in the years 1867, 1871, 1881, 1891 and 1901 are approximations, based in certain cases upon provincial statistics for the nearest available years.

3.—Historical Summary of Enrolment and Average Attendance in Schools in Canada, by Provinces, 1824-1929.

TOTAL NUMBER ENROLLED, 1824-1929.

Year.	P.E.I.	N.S.	N.B.	Que.[3]	Ont.[4]	Man.	Sask.	Alta.	B.C.	Canada.
1811...	–	[1]	–	–	–	–	–		–	–
1824...	–	5,514	–	–	–	–	–		–	–
1829...	–	12,000	–	18,410	–	–	–		–	–
1835...	–	15,292	–	37,000	–	–	–		–	–
1845...	–	–	15,924	–	–	–	–		–	–
1846...	–	33,960	–	**60,000**[2]	–	–	–		–	–
1850...	–	–	–	–	**151,981**[2]	–	–		–	–
1852...	[2]	–	–	–	179,857	–	–		–	–
1861...	–	33,652	27,982	–	–	–	–		–	–
1864...	–	**35,405**[2]	30,632	–	–	–	–		–	–
1866...	–	50,574	30,263	–	–	–	–		401	–
1867...	–	65,869	31,364	–	403,339	–	–		–	718,000
1868...	–	68,612	31,988	205,530	–	–	–		–	–
1871...	–	75,995	**33,981**[2]	–	–	817	–		–	803,000
1872...	–	73,638	39,837	–	462,630	–	–		**514**[2]	–
1873...	–	74,297	42,611	216,992	–	–	–		1,028	–
1876...	–	79,813	64,689	–	499,078	2,734	–		1,685	–
1881...	21,501	78,828	65,631	227,935	489,404	**4,919**[2]	–		2,571	891,000
1886...	22,414	85,714	68,367	–	502,840	15,926	2,553		4,471	–
1891...	22,330	83,548	68,992	265,513	–	23,871	5,652		9,260	993,000
1892...	22,169	85,077	68,909	268,535	508,507	23,243	6,170		10,773	993,383
1894...	22,221	98,701	69,648	274,915	506,726	32,680	10,721		12,613	1,028,225
1895...	22,250	100,555	68,761	286,180	509,213	35,371	11,972		13,482	1,047,784
1896...	22,138	101,032	68,297	293,584	506,515	37,987	12,796		14,460	1,056,809
1901...	20,779	98,410	66,689	314,881	492,534	51,888	–		23,615	1,083,000
1903...	19,956	98,768	65,951	326,183	487,880	57,409	33,191		24,499	1,113,837
1904...	19,031	96,886	65,278	329,666	484,351	58,574	41,033		25,787	1,120,606
1905...	19,272	100,252	66,897	335,768	487,635	63,287	25,191	24,254	27,354	1,149,909
1906...	18,986	100,332	66,635	341,808	492,544	64,123	31,275	28,784	28,522	1,173,009
1907...	19,036	100,007	66,422	347,614	493,791	67,144	37,622	34,338	30,039	1,196,013
1908...	18,012	100,105	66,383	352,944	501,641	71,031	47,086	39,653	33,223	1,230,169
1909...	18,073	101,680	67,735	367,012	507,219	73,044	55,116	46,048	36,227	1,272,204
1910...	17,932	102,035	68,154	374,547	510,700	76,247	65,392	55,307	39,670	1,310,117
1911...	17,397	102,910	68,951	389,123	518,605	80,848	72,260	61,660	49,451	1,356,879
1913...	17,555	105,269	69,663	411,784	542,822	83,679	101,463	79,909	57,384	1,469,752
1914...	19,069	106,351	70,622	435,895	561,927	93,954	113,985	89,910	61,957	1,552,976
1915...	18,402	107,768	72,013	448,087	569,030	100,963	122,862	97,286	64,264	1,601,035
1916...	18,362	109,189	73,007	464,447	560,340	103,796	129,439	99,201	64,570	1,622,351
1917...	18,190	109,032	71,981	463,390	561,865	106,588	142,617	107,727	65,118	1,646,508
1918...	17,861	108,097	71,782	467,508	564,655	109,925	151,326	111,109	67,516	1,669,776
1919...	17,587	106,982	71,029	486,201	584,724	114,662	164,219	121,567	72,006	1,738,977
1920...	17,354	108,096	72,988	495,887	604,923	123,452	174,925	135,750	79,243	1,812,618
1921...	17,510	109,483	73,712	512,651	632,123	129,015	184,871	124,328[5]	85,950	1,869,643
1922...	18,323	114,229	77,774	530,705	654,893	136,876	183,935	142,902	91,919	1,951,556
1923...	17,742	114,458	78,753	537,406	667,922	142,369	194,313	148,045	94,888	1,995,896
1924...	17,281	111,594	79,265	541,485	671,311	144,491	204,154	147,373	96,204	2,013,158
1925...	17,427	112,352	80,145	548,519	677,458	145,834	206,595	147,796[6]	97,954	2,034,080
1926...	17,324	112,391	80,769	552,832	686,285	148,279	213,404	150,526[6]	101,688	2,063,498
1927...	17,210	112,556	80,690	557,732	700,476	148,763	218,560	154,380[6]	105,008	2,095,375
1928...	17,214	112,898	82,170	565,845	708,081	150,883	223,049	159,086[6]	108,179	2,127,405
1929...	17,180	113,309	83,580	–	–	150,517	227,263	164,850[6]	109,558	–

[1] Common school system formed. [2] Free school system established. [3] Primary schools only. [4] Not including vocational schools. [5] Half year only. [6] Including private schools from 1925.

3.—Historical Summary of Enrolment and Average Attendance in Schools in Canada, by Provinces, 1871-1929—concluded.

AVERAGE DAILY ATTENDANCE—1871-1929.

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
1871...	-	43,612	-	-	-	-	-		-	-
1873...	-	41,392	-	-	-	-	-		575	-
1876...	-	45,373	-	-	217,202	-	-		984	-
1881...	-	43,461	36,688	-	222,534	-	-		1,367	-
1891...	12,898	49,347	-	-	-	12,443	-		5,135	-
1892...	12,986	50,975	-	205,623	-	12,976	-		6,227	-
1895...	13,250	54,007	-	221,168	-	19,516	-		8,610	-
1896...	13,412	54,016	-	220,969	-	20,247	-		9,254	-
1901...	12,330	53,643	37,473	232,255	275,234	27,550	-		15,335	669,000
1903...	12,112	55,213	38,032	243,123	275,385	36,479	16,321		16,627	704,000
1904...	11,722	54,000	37,567	246,319	273,815	31,326	20,918		17,071	705,000
1905...	11,627	56,342	39,402	255,420	281,674	33,794	13,493	13,375	18,871	724,171
1906...	11,903	59,165	38,482	263,111	285,330	34,947	15,770	14,782	19,809	743,496
1907...	11,543	57,173	38,790	266,510	284,998	37,279	19,841	17,310	20,459	754,060
1908...	11,647	58,343	40,202	271,019	292,052	40,691	26,081	18,923	23,473	783,584
1909...	11,543	61,787	42,501	285,729	295,352	41,405	28,998	22,225	25,662	815,449
1910...	11,632	65,630	42,596	293,035	299,747	43,885	34,517	29,611	28,423	849,344
1911...	10,511	61,250	42,791	301,678	305,648	45,303	38,278	32,556	32,517	870,801
1913...	11,003	65,686	44,375	324,447	330,474	48,163	56,005	45,888	43,072	969,380
1914...	11,170	66,599	44,534	344,657	346,509	58,778	65,009	54,582	49,090	1,041,108
1915...	11,694	70,361	47,889	360,897	365,959	68,250	72,113	61,112	52,494	1,111,075
1916...	11,347	69,227	48,069	373,364	355,364	66,561	71,522	60,271	50,880	1,140,793
1917...	11,319	70,118	46,860	367,468	369,081	69,209	88,758	65,374	52,577	1,141,065
1918...	11,334	67,923	46,515	369,057	329,972	69,968	91,010	68,489	54,748	1,107,467
1919...	10,908	65,906	45,797	365,803	388,768	72,072	98,791	74,776	56,692	1,179,513
1920...	10,991	66,442	46,950	372,377	396,141	88,563	101,355	82,417	59,791	1,237,146
1921...	11,446	78,238	49,655	397,172	446,396	86,137	113,412	89,401	68,597	1,335,454
1922...	12,338	79,410	51,590	421,604	470,073	95,433	119,041	100,515	75,528	1,425,532
1923...	11,763	83,472	53,611	422,159	474,859	98,787	130,499	105,364	77,752	1,458,266
1924...	11,783	79,509	58,179	430,184	487,410	103,775	139,782	105,852	79,262	1,506,698
1925...	12,259	80,318	58,182	437,988	496,355	104,312	144,650	107,880	82,721	1,524,665
1926...	11,823	80,446	58,346	443,255	498,662	106,809	152,430	110,928	85,293	1,547,992
1927...	11,777	81,426	60,426	448,018	513,071	106,793	157,392	115,125	88,306	1,582,334
1928...	12,123	82,591	61,377	457,009	517,463	114,270	157,207	119,084	91,760	1,619,542
1929..	12,144	84,275	61,127	-	-	116,766	161,658	123,480	94,410	-

4.—Total Pupils Enrolled and in Average Attendance, and Total in High School Grades, in Cities of 10,000 or over, by Sex, 1929, or Latest Year Reported.

Name of City.	Number of Pupils Attending General Schools.				Number of Pupils in High School Grades (included in Total, General Schools).		
	Boys.	Girls.	Total.	Average Attendance.	Boys.	Girls.	Total.
Montreal, Que.[1]	71,271	71,988	143,259	116,609	–	–	–
Toronto, Ont.	60,880	57,835	118,715	84,893	5,309	4,302	10,424[2]
Winnipeg, Man.	21,036	20,474	41,510	35,393	2,699	2,926	5,625
Vancouver, B.C.	19,926	19,577	39,503	33,727	3,377	3,614	6,991
Hamilton, Ont.	15,031	14,488	29,519	22,781	992	881	2,153[2]
Ottawa, Ont.	12,836	12,467	25,303	19,968	1,264	1,028	2,711[2]
Quebec, Que.[1]	11,527	12,497	24,024	20,114	–	–	–
Calgary, Alta.	8,591	8,613	17,204	14,090	1,262	1,669	2,931
London, Ont.	7,034	6,823	13,857	11,018	853	995	2,030[2]
Edmonton, Alta.	8,678	9,404	18,082	15,048	1,313	1,918	3,231
Halifax, N.S.	6,134	6,056	12,190	9,746	544	693	1,237
Saint John, N.B.	4,530	4,855	9,385	8,177	376	553	929
Victoria, B.C.	3,200	3,105	6,305	5,488	704	663	1,367
Windsor, Ont.	8,037	7,445	15,482	11,113	568	486	1,056[2]
Regina, Sask.	5,676	5,740	11,416	–	892	1,020	1,912
Brantford, Ont.	3,374	3,248	6,622	5,194	349	372	756[2]
Saskatoon, Sask.	4,896	5,120	10,016	–	806	1,085	1,891
Sydney, N.S.	2,969	2,899	5,868	4,850	363	304	667
Kitchener, Ont.	3,078	3,064	6,142	4,784	225	241	495[2]
Kingston, Ont.	2,308	2,306	4,614	3,610	338	328	666
Sault Ste. Marie, Ont.	3,050	3,056	6,106	4,629	274	323	606[2]
Peterborough, Ont.	2,604	2,527	5,131	3,978	208	185	682[2]
Fort William, Ont.	3,366	3,422	6,788	5,547	305	328	713[2]
St. Catharines, Ont.	2,759	2,842	5,601	4,303	296	340	636
Moose Jaw, Sask.	3,021	3,040	6,061	–	433	582	1,015
Guelph, Ont.	2,239	2,066	4,305	3,363	280	261	541
Moncton, N.B.	2,190	2,119	4,309	3,705	197	226	423
Glace Bay, N.S.	2,529	2,564	5,093	3,960	121	212	333
Stratford, Ont.	2,057	1,929	3,986	3,169	319	262	581
St. Thomas, Ont.	1,746	1,741	3,487	2,646	211	225	493[2]
Brandon, Man.	1,989	1,982	3,971	3,180	262	270	532
Port Arthur, Ont.	2,316	2,269	4,585	3,602	179	232	411
Sarnia, Ont.	1,908	1,758	3,666	2,807	245	232	523[2]
Niagara Falls, Ont.	2,045	1,916	3,961	3,044	213	140	353
New Westminster, B.C.	1,883	1,866	3,699	3,147	398	454	852
Chatham, Ont.	1,822	1,767	3,589	2,588	259	240	499
Galt, Ont.	1,557	1,523	3,080	2,369	199	238	427
St. Boniface, Man.	930	1,028	1,958	1,545	70	110	180
Charlottetown, P.E.I.	1,186	988	2,174	1,837	94	123	213
Belleville, Ont.	1,504	1,421	2,925	2,241	187	241	428
Owen Sound, Ont.	1,377	1,308	2,685	2,288	181	194	389[2]
Oshawa, Ont.	2,608	2,417	5,025	3,775	332	188	520
Lethbridge, Alta.	1,509	1,587	3,096	2,608	231	327	558
North Bay, Ont.	1,943	1,884	3,827	3,085	203	148	351
Welland, Ont.	1,341	1,246	2,587	1,996	167	133	300
Brockville, Ont.	1,009	1,038	2,047	1,682	229	235	464

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[1] Primary schools including Protestant high schools, 1928. The high school enrolment is not given because it would not be complete without including the high school pupils of the classical colleges and independent classical schools and of the normal schools. [2] The figures by sex represent high schools and collegiate institutes only; the totals include pupils in fifth classes.

Secondary Education.—In the past quarter of a century the number of pupils of both sexes doing work of secondary grade has shown a very great absolute increase as well as a large increase relative to the number in elementary grades. The available statistics are given by years in Table 5, and show that in each of the provinces and in every year the number of girls in the secondary grades has exceeded the number of boys. The drop in the Ontario figures between 1915 and 1917 is due in part to the change in the statistical year from the calendar year to the natural school year from September to June.

5.—Provincially-Controlled Schools in Canada: Comparative Numbers of Boys and Girls Doing Work of Secondary Grade in each of Seven Provinces, 1901-1929.[1]

Year.	N.S.		N.B.[3]		Ontario.		Manitoba.		Sask.		Alberta.		B.C.	
	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.
1901	–	–	–	–	10,869	11,654	–	–	–	–	–	–	215	369
1902.......	–	–	–	–	11,629	12,843	–	–	–	–	–	–	313	471
1903.......	–	–	–	–	11,988	13,734	–	–	–	–	–	–	316	540
1904.......	2,496	4,499	–	–	12,718	14,991	–	–	–	–	–	–	381	600
1905.......	2,732	4,554	–	–	13,035	15,626	–	–	–	–	–	–	433	657
1906.......	2,775	4,864	–	–	13,336	16,056	–	–	–	–	–	–	412	763
1907.......	2,792	4,854	–	–	13,799	16,532	–	–	–	–	–	–	432	823
1908.......	2,985	4,928	–	–	14,731	17,181	–	–	335	399	–	–	613	857
1909.......	3,076	5,048	–	–	15,776	17,325	–	–	504	643	–	–	812	997
1910.......	3,181	5,476	–	–	15,196	17,416	–	–	623	804	–	–	919	1,122
1911.......	3,211	5,463	–	–	17,073	20,907	–	–	766	927	–	–	940	1,048
1912.......	3,132	5,536	–	–	17,345	21,022	–	–	885	1,129	–	–	973	1,178
1913.......	3,175	5,461	–	–	17,718	21,572	–	–	1,028	1,326	–	–	1,232	1,448
1914.......	3,216	5,687	–	–	19,475	23,060	–	–	1,034	1,622	–	–	1,414	1,593
1915	3,436	6,041	–	–	20,508	24,718	–	–	1,545	2,038	–	–	1,844	2,068
1916.......	3,466	6,260	–	–	–	–	–	–	1,566	2,283	–	–	2,260	2,510
1917.......	3,051	6,037	–	–	14,318	19,597	–	–	1,445	2,441	–	–	2,074	2,767
1918.......	3,082	6,115	–	–	13,342	19,859	–	–	1,523	2,561	–	–	2,151	2,999
1919.......	3,024	6,114	–	–	15,095	20,643	–	–	1,910	2,841	–	–	2,392	3,414
1920.......	3,313	6,178	–	–	16,682	21,480	–	–	2,492	3,425	–	–	3,826	3,810
1921.......	3,425	6,280	–	–	17,525	22,426	3,524	5,091	2,494	3.423	3,088	4,421	3,093	4,166
1922.......	4,202	6,937	–	–	21,408	25,502	–	–	2,423	3,204	4,707	6,055	3,788	4,846
1923.......	4,715	7,373	–	–	24,708	28,700	5,367	7,242	5,519	8,028	5,286	6,976	4,046	5,174
1924.......	4,415	7,217	1,363	2,074	26,417	31,183	–	–	6,604	9,410	5,877	7,569	4,380	5,509
1925.......	4,696	7,157	1,498	2,171	28,804	33,857	–	–	7,255	10,171	6,321	8,392	4,711	5,886
1926.......	4,605	7,343	1,535	2,264	29,281	34,175	5,560	7,991	8,140	11,361	6,658	7,795	5,306	6,473
1927.......	4,498	7,472	1,561	2,474	29,187[2]	33,867[2]	–	–	8,315	11,721	6.846	9,642	6,308	7,545
1928.......	4,633	7,483	1,637	2,490	31,000	34,884[2]	5,665	8,498	8,497	12,405	7,614	10,604	7,494	8,865
1929.	4,809	7,722	1,600	2,544	31,828[2]	35,125[2]	6,458	8,626	9,197	13,397	8,089	11,344	9,350	10,661

[1] 1924—P.E.I., inc. P.W.C., 719-1,113; 1925—P.E.I., inc. P.W.C., 659-1,087; 1926—P.E.I., inc. P.W.C., 733-1,098; 1927—P.E.I., inc. P.W.C., 648-1,104; 1928—P.E.I., inc. P.W.C., 517-1,014; 1929—P.E.I., inc. P.W.C., 592-1,017. [2] Includes the pupils of continuation schools, high schools and collegiate institutes only. In 1928-29 in all secondary grades reported there were approximately 45,652 boys and 52,181 girls. These included full-time day vocational, public and separate schools. The figures in the tables are for comparative purposes confined to continuation and high schools and collegiate institutes. [3] The figures given for New Brunswick are approximate.

Subjects of Instruction in Secondary Grades.—The subjects taken in the elementary grades of the provincially-controlled schools are settled by the curriculum, but in the secondary grades there are usually options appealing to different types of pupils, wishing to follow different callings. Statistics of the subjects taken by pupils in secondary grades in 1929, available for six provinces, are presented in Table 6, showing among other things the small number of pupils taking Greek and German and the high proportion studying French and Latin. Tables on pp. 45-55 of the "Annual Survey of Education in Canada, 1929" show in detail the changes in the subjects chosen by secondary grade pupils in the different provinces in recent years.

6.—Provincially Controlled Schools in Canada: Numbers of Pupils Taking Certain Secondary Grade Subjects in each of Six Provinces, 1929.

NOTE.—The numbers taking the listed subjects include all pupils of secondary grade in N.S.; secondary pupils enrolled during the second term in N.B.; pupils in secondary schools only (not including secondary pupils in other than secondary schools) in Ontario, Saskatchewan, Alberta and British Columbia. The totals show the total enrolment in the schools represented.

Subject.	Nova Scotia.	New Brunswick.	Ontario.	Saskatchewan.	Alberta.	British Columbia.	Total.
English	12,111	3,737	83,350	6,231	8,811	20,011	134,251
History	3,967[1]	3,707	22,061[1]	6,088[2]	8,154[2]	17,319	61,296
Geography	3,820		34,804	3,613	1,492	4,489	48,218
Arithmetic and Mensuration	5,259	2,811	37,778	4,316	1,783	15,444	67,391
Algebra	11,903	3,615	47,917	5,727	7,179	15,050	91,391
Geometry	6,292	3,624	34,752	5,404	6,118	12,424	68,614
Trigonometry	2,600	154	4,086	949	772	391	8,952
French	9,802	3,530	62,994	4,916	5,992	12,901	100,135
Spanish	–	–	259	–	–	–	259
German	692	–	2,148	125	191	52	3,208
Latin	5,679	2,789	50,637	3,833	3,486	6,932	73,356
Greek	27	22	412	15	–	34	510
Zoology	–	–	11,278	499	–	–	11,777
Botany	3,120	2,551	14,490		–	188	20,349
Chemistry	6,113	1,538	14,522	2,140	1,894	5,998	32,205
Physics	294	1,421	19,667	1,917	2,537	3,564	29,400
Bookkeeping	–	395	13,137	883	740	5,802	20,957
Stenography	–	–	15,386	953	811	2,779	19,929
Typewriting	–	–	15,550	939	813	3,615	20,917
Business Law, etc	–	–	4,224	794	25	1,118	6,161
Art	4,388	816	13,161	1,374	2,042	8,252	30,033
Physical Culture	–	–	–	4,930	6,625	8,228	19,783
Agriculture	–	–	8,917	853	795	516	11,081
Manual Training	–	–	8,073	894	72	–	9,039
Household Science	–	–	4,503	1,073	71	–	5,647
Elementary Science	–	–	–	2,948	3,381	–	6,329
Music	–	–	234	1,419	303	3,750	5,706
Military Drill	–	–	–	1,332	876	–	2,208
Physiology	–	1,434	–	3,960	–	3,576	8,970
Totals, Pupils	**12,531**	**3,737**	**90,125**[3]	**7,361**	**10,738**	**20,011**	**144,503**

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[1] Canadian History.

[2] Approximate.

[3] Including continuation and high schools, collegiate institutes, and day vocational full-time pupils.

Teaching Staffs.—As shown in Table 1, the teaching staffs of Canadian schools consisted in 1929 of 68,888 teachers, 13,490 males and 55,398 females. Tables on pp. 73-81 of the "Annual Survey of Education in Canada, 1929" deal in detail with the classification of these teachers, the rates of salary paid and the teaching experience. Table 7 summarizes statistics regarding rates of salary, as far as available.

7.—Average Annual Salaries of School Teachers, by Provinces, 1928-1929, or Latest Year Reported.

Province and Class of Certificate.	Male.	Female.	Province and Class of Certificate.	Male.	Female.
	$	$		$	$
Prince Edward Island, 1929—			New Brunswick, 1929—		
First class	818	634	First class	1,242	945
Second class	549	495	Second class	762	666
Third class	460	408	Third class	534	519
			Superior schools	1,382	
Nova Scotia, 1929—			Grammar schools	2,042	
All schools	721				

7.—Average Annual Salaries of School Teachers, by Provinces, 1928-1929, or Latest Year Reported—concluded.

Province and Class of Certificate.	Male.	Female.
Quebec, 1928—	$	$
Religious teachers	559	378
Lay teachers—		
Catholic schools	1,552	387
Protestant schools	2,351	1,068
Catholic and Protestant schools	1,724	526
Ontario, 1928—		
Public schools—		
Rural	1,165	980
City	2,381	1,474
Town	1,851	1,061
Village	1,386	1,031
Separate schools—		
Rural	978	889
City	896	713
Town	973	667
Village	–	807
Total public and separate	1,646	1,089
High schools and collegiate institutes, 1928—		
Principals	3,190	
Assistants	2,674	2,145
Continuation schools, 1928[3]—		
Principals	1,783	
Assistants	1,375	1,360
Saskatchewan, 1929[1]—	$	$
Rural schools—		
First class	1,174	1,057
Second class	1,132	1,036
Third class	1,053	1,003
Others	1,041	1,093
All classes	1,123	1,041
Cities, towns and villages—		
First class	1,768	1,245
Second class	1,858	1,130
Third class	1,211	1,012
Others	–	–
All classes	1,642	1,173
Alberta, 1929—		
First class	1,671	1,234
Second class	1,216	1,111
Third class	1,062	1,010
Permit and pending[2]	1,000	967
Specialist	2,504	2,008
British Columbia, 1929—		
High schools	2,476	
Cities	1,325	
Rural municipalities	1,211	
Rural and assisted	1,106	
All schools	1,466	

[1] In Saskatchewan, only elementary school teachers are included. [2] Teachers with certificates from other provinces. [3] Teachers engaged for 1928-29.

Teachers in Training.—Detailed information regarding male and female teachers in training in 1928-29 is given in Table **108** of the "Annual Survey of Education in Canada, 1929". A summary of the number of teachers in training in each year from 1902 to 1929 is furnished by provinces in Table **8.**

8.—Provincially-Controlled Schools in Canada: Number of Teachers in Training in Normal Schools and Colleges, by Provinces, 1902-1929.[1]

Year.	P.E I	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total.
1902	–	182	269	420	1,922	320	–	–	–	3,113
1903	–	145	224	460	1,861	319	–	–	–	3,009
1904	–	191	288	392	1,592	390	–	–	–	2,853
1905	–	148	285	416	1,685	491	–	–	–	3,025
1906	–	154	307	423	2,286	476	188	102	–	3,936
1908	–	161	334	526	1,788	410	229	140	–	3,588
1909	–	215	343	715	1,410	448	411	182	–	3,724
1910	–	260	358	787	1,510	503	447	218	–	4,083
1911	–	268	370	840	1,474	628	241	248	–	4,069
1912	–	293	376	836	1,513	–	580	278	–	3,876
1913	–	302	358	1,088	1,436	529	643	292	–	4,648
1914	–	318	357	1,270	1,563	581	886	364	–	5,339
1915	–	355	351	1,312	1,425	672	1,222	601	–	5,938
1916	–	388	372	1,357	1,819	737	911	438	–	6,022
1917	–	263	372	1,361	1,438	599	1,081	358	335	5,807
1918	–	260	287	1,339	1,676	513	621	488	365	5,549
1919	–	255	263	1,223	1,659	554	1,058	598	425	6,035
1920	220	228	263	1,502	1,959	593	723	694	404	6,586
1921	241	241	216	1,376	2,221	642	899	892	377	7,105
1922	341	356	358	1,389	2,684	790	1,462	760	685	8,825
1923	347	353	451	1,555	3,131	637	1,571	1,033	672	9,750
1924	338	383	442	1,623	3,392	695	1,621	616	639	9,749
1925	297	412	430	1,771	2,611	695	1,702	631	563	9,112
1926	299	329	424	1,854	2,786	636	1,655	739	453	9,175
1927	243	300	344	1,884	2,441	626	1,514	712	335	8,399
1928	294	282	321	1,950	2,679	614	1,458	765	375	8,738
1929	324	254	345	1,921	1,734	536	2,677	774	339	8,904

[1] The data for 1907 are incomparable and have been omitted. In recent years several universities have added teacher training departments, in most cases for university graduates who are trained for teaching positions in the secondary schools. These are not all included in the figures.

Receipts and Expenditures.—The total receipts and expenditures of the provincially-controlled schools of the different provinces are published for recent years in Table **9.** Figures for the receipts in British Columbia and for expenditures in Nova Scotia, New Brunswick, Prince Edward Island and Quebec are not available.

9.—Canadian Provincially-Controlled Schools: Receipts and Expenditures, by Provinces, 1922-29.[1]

Year.	P.E.I.[2]—Receipts.			N.S.[2]—Receipts.			
	Govt. Grants.	Local Assessment.	Total Receipts.	Govt. Grants.	Municipal Funds.	Local Assessment.	Total Receipts.
	$	$	$	$	$	$	$
1922	271,103	157,766	428,869	616,389	502,804	2,527,377	3,646,570
1923	296,836	202,714	496,550	649,363	525,114	2,313,460	3,487,937
1924	279,898	169,949	449,847	638,593	523,913	2,428,832	3,591,338
1925	285,102	167,597	452,699	648,648	524,037	2,522,255	3,704,940
1926	283,022	171,649	454,671	653,734	523,738	2,393,155	3,570,627
1927	284,313	174,164	458,477	688,081	524,196	2,393,125	3,605,401
1928	294,037	179,004	473,041	752,858	523,967	2,504,390	3,781,215
1929	297,369	187,769	485,138	875,007	523,762	2,549,461	3,948,230

Year.	N.B.[2]—Receipts.				Que.[2]—Receipts.		
	Govt. Grants.	Municipal Funds.	Local Assessment.	Total Receipts.	Govt. Grants.	Assessment and Other Sources.	Total Receipts.
	$	$	$	$	$	$	$
1922	381,075	195,948	2,080,023	2,657,046	2,604,409	21,367,788	23,972,197
1923	386,883	204,103	2,083,391	2,674,377	3,261,111	22,135,157	25,396,268
1924	403,454	213,836	2,102,937	2,720,227	3,776,674	24,141,064	27,917,738
1925	400,059	211,885	2,736,430	3,348,374	3,771,317	25,209,251	28,980,568
1926	425,181	213,066	2,263,082	2,901,329	3,799,545	25,016,895	28,816,440
1927	445,014	212,350	2,413,951	3,071,315	3,983,753	25,823,854	29,807,607
1928	471,759	212,616	2,337,740	3,022,115	4,152,312	26,729,566	30,881,878
1929	478,964	227,728	2,361,978	3,068,670	-	-	-

ONTARIO—Receipts.

Year.	Elementary Schools.				Secondary Schools.		Grand Total.
	Govt. Grants.	Local Assessment.	Clergy Reserve Fund and Other Sources.	Total.	Govt. Grants.	Total.	
	$	$	$	$	$	$	$
1922	2,976,712	22,842,180	12,805,773	38,624,665	1,063,323	11,608,199	50,232,864
1923	3,266,584	23,855,879	16,460,831	43,583,294	1,112,292	13,856,252	57,439,546
1924	3,392,552	24,113,034	12,630,296	40,135,882	1,219,260	13,558,098	53,693,980
1925	3,401,863	24,690,293	12,670,626	40,762,782	1,319,737	13,261,826	54,024,608
1926	3,345,308	24,564,710	14,223,076	42,133,094	1,429,322	13,780,410	55,913,504
1927	3,404,647	25,621,542	12,559,917	41,586,106	1,533,930	15,957,378	57,543,484
1928	3,508,408	26,159,067	13,128,485	42,795,960	1,594,070	17,811,614	60,607,574

ONTARIO—Expenditure.

Year.	Elementary Schools.					Secondary Schools.	Grand Total.
	Teachers' Salaries.	Sites, etc.	Apparatus, etc.	Rents, etc.	Total.		
	$	$	$	$	$	$	$
1922	16,690,982	6,284,139	480,483	8,465,280	31,920,884	9,495,920	41,416,804
1923	17,534,704	7,497,509	504,670	10,321,472	35,858,355	12,176,209	48,034,564
1924	18,105,568	4,408,473	518,989	9,977,034	33,010,064	12,020,621	45,030,685
1925	18,569,110	4,042,896	504,923	10,181,188	33,298,117	12,356,796	45,655,613
1926	18,604,257	4,275,726	499,088	11,394,979	34,774,050	11,721,170	46,495,220
1927	19,006,316	4,011,025	532,127	11,249,702	34,799,170	13,711,045	48,510,215
1928	19,490,562	3,821,743	537,116	11,645,816	35,495,237	16,894,437	52,389,674

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[1] For other years back to 1901, see 1921 Year Book, pp. 148-153. The latest figures for Quebec, Ontario, Saskatchewan and Alberta are for 1928.

[2] Figures for Prince Edward Island, Nova Scotia, New Brunswick and Quebec do not include expenditures.

9.—Canadian Provincially-Controlled Schools: Receipts and Expenditure, by Provinces, 1922-29[1]—continued.

MANITOBA—Receipts.

Year.	Legislative Grants.	Municipal Taxes.	Debentures.	Promissory Notes.	Sundries.	Balance from Previous Years.	Total.
	$	$	$	$	$	$	$
1922	1,058,292	7,991,517	1,832,134	2,613,709	242,840	563,183	14,301,675
1923	1,011,048	8,173,986	314,519	3,135,722	308,438	894,229	13,837,943
1924	1,096,010	7,468,737	812,787	1,786,188	220,704	752,990	12,137,416
1925	1,310,067	7,283,360	677,775	1,335,695	185,109	833,930	11,625,936
1926	1,091,151	7,302,044	402,504	1,010,958	190,002	955,802	10,952,462
1927	1,110,575	7,365,798	369,721	1,090,556	275,718	960,332	11,172,700
1928	1,191,924	7,555,561	568,937	854,367	230,025	918,915	11,319,729
1929	1,208,809	7,611,029	408,897	877,474	186,088	911,043	11,203,340

MANITOBA—Expenditure.

Year.	Teachers' Salaries.	Building, etc.	Fuel, etc.	Repairs and Caretaking.	Secretary-Treasurers' Salaries.
	$	$	$	$	$
1922	5,016,903	1,947,527	512,016	746,642	140,414
1923	5,081,809	1,276,288	433,882	659,134	146,797
1924	4,849,712	726,585	410,680	624,455	131,929
1925	4,838,723	269,893	318,804	769,435	150,783
1926	4,914,087	419,047	242,542	782,226	164,403
1927	4,984,111	718,348	396,217	658,723	223,287
1928	5,063,926	597,183	415,257	684,528	203,226
1929	5,167,687	683,747	385,406	693,074	171,882

Year.	Principal of Debentures.	Interest on Debentures.	Promissory Notes.	Other Expenditures.	Total.
	$	$	$	$	$
1922	485,365	610,418	2,666,484	1,439,055	13,564,824
1923	596,878	625,196	2,789,178	1,390,092	12,999.254
1924	378,176	678,079	2,364,476	1,120,003	11,284,095
1925	585,796	737,070	2,123,882	876,942	10,671,328
1926	605,920	681,643	1,188,854	995,238	9,993,961
1927	613,671	683,883	1,067,836	903,400	10,249,476
1928	633,097	683,714	1,178,688	925,077	10,384,696
1929	639,916	684,765	982,903	996,925	10,406,305

SASKATCHEWAN—Receipts.

Year.	Elementary Schools.					Secondary Schools.		Grand Total.
	Govt. Grants.	Local Assessments.	Debentures.	Other Sources.	Total.	Govt. Grants.	Total.	
	$	$	$	$	$	$	$	$
1922	1,779,228	10,090,401	631,219	2,026,838	14,527,686	191,912	601,130	15,128,816
1923	1,620,803	10,101,291	810,858	1,922,923	14,455,875	213,233	639,704	15,095,579
1924	1,850,403	10,015,774	551,834	1,820,432	14,234,445	224,257	657,333	14,891,778
1925	1,913,643	10,063,559	720,272	1,927,253	14,624,727	216,102	664,181	15,288,908
1926	2,033,761	10,229,432	883,695	1,809,126	14,956,014	231,720	739,143	15,695,157
1927	2,141,290	10,415,005	1,300,862	2,133,815	15,990,972	199,246	760,776	16,751,748
1928	2,193,889	10,874,672	1,217,825	1,981,025	16,267,411	208,732	778,302	17,045,713

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[1] For other years back to 1901, see 1921 Year Book, pp. 148-153. The latest figures for Ontario, Saskatchewan and Alberta are for 1928.

9.—Canadian Provincially-Controlled Schools: Receipts and Expenditure, by Provinces, 1922-29[1]—concluded.

SASKATCHEWAN—Expenditure.

Year.	Elementary Schools.						Secondary Schools.		Grand Total.
	Teachers' Salaries.	Debentures.	Notes (renewals and interest).	School Bldgs. and Grounds.	Other Expenditure.	Total Expenditure.	Teachers' Salaries.	Total.[2]	
	$	$	$	$	$	$	$	$	$
1922....	6,812,680	1,379,574	2,026,119	1,153,081	2,840,545	14,211,999	410,437	707,804	14,919,803
1923....	6,737,772	1,518,266	1,767,226	1,362,975	2,960,032	14,346,271	429,200	806,365	15,152,636
1924....	6,830,764	1,471,020	1,611,562	1,202,530	2,946,013	14,061,889	449,096	699,279	14,761,168
1925....	6,828,428	1,481,450	1,577,795	1,320,091	3,083,072	14,290,836	459,630	690,247	14,981,083
1926....	6,957,331	1,428,945	1,571,714	1,629,230	3,202,636	14,789,856	480,763	710,521	15,500,477
1927....	7,184,460	1,459,629	1,815,173	2,116,041	3,342,366	15,917,669	508,772	843,179	17,269,620
1928....	7,484,752	1,526,298	1,670,769	2,231,260	3,501,765	16,414,844	539,105	797,373	17,212,217

ALBERTA—Receipts.

Year.	Govt. Grants.	Local Assessments.	Debentures.	Notes.	Other Sources.	Total.
	$	$	$	$	$	$
1922	1,241,518	7,475,582	1,262,120	2,232,254	216,998	12,428,472
1923	1,117,023	8,282,650	449,376	1,928,153	260,192	12,037,394
1924	1,054,733	8,327,327	493,989	1,267,787	345,395	11,489,231
1925	1,084,879	8,197,098	357,103	1,130,357	364,954	11,134,391
1926	1,137,638	8,241,715	573,401	1,058,121	320,363	11,331,238
1927	1,218,573	8,901,979	503,130	967,530	333,931	11,925,143
1928	1,321,158	9,279,494	1,097,006	1,241,062	291,368	13,330,688

ALBERTA—Expenditure.

Year.	Teachers' Salaries.	Officials' Salaries.	Debentures.	Notes.	Buildings.	Other Expenditure.	Total Expenditure.
	$	$	$	$	$	$	$
1922	5,428,826	283,873	1,183,983	2,457,356	999,787	2,004,543	12,358,371
1923	5,411,487	281,680	1,213,110	2,190,676	830,895	1,935,719	11,863,567
1924	5,443,248	305,914	1,273,607	1,727,405	703,495	2,000,837	11,458,506
1925	5,477,156	276,519	1,225,741	1,269,913	630,377	1,947,084	10,826,790
1926	5,640,219	332,467	1,226,350	1,173,582	839,841	2,067,654	11,280,113
1927	5,899,839	332,115	1,211,234	1,278,206	980,704	2,005,890	11,707,988
1928	6,243,085	357,525	1,228,138	1,170,050	1,806,269	2,231,799	13,036,866

BRITISH COLUMBIA[4]—Expenditure.

Year.	Local Assessments.				Provincial Government.	Grand Total.
	Cities.	Rural Municipalities.	Other Rural.	Total.		
	$	$	$	$	$	$
1922	–	–	–	4,691,840	3,141,738[3]	7,833,578[3]
1923	2,727,755	1,371,147	354,421	4,453,323	3,176,686[3]	7,630,009[3]
1924	3,053,161	1,492,501	477,639	5,023,301	3,173,395[3]	8,196,696[3]
1925	2,959,649	1,694,553	451,216	5,105,418	3,223,671[3]	8,329,089[3]
1926	3,015,092	1,600,452	479,876	5,095,420	3,216,209[3]	8,311,629[3]
1927	3,269,522	1,992,573	507,692	5,769,787	3,402,941[3]	9,172,728[3]
1928	3,368,253	1,843,283	517,040	5,728,576	3,532,519[3]	9,261,095[3]
1929	5,806,030	1,025,482	552,563	7,384,075	3,765,921[3]	11,149,996[3]

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[1] For other years back to 1901, see 1921 Year Book, pp. 148-153. The latest figures for Ontario, Saskatchewan and Alberta are for 1928.

[2] The items for 1922–1928 do not include promissory notes.

[3] Including grants to provincial university as follows: 1922, $445,000; 1923, $446,250; 1924, $458,125; 1925, $466,000; 1926, $516,242; 1927, $531,875; 1928, $545,917; 1929, $564,425.

[4] Figures for British Columbia do not include receipts.

Subsection 2.—Vocational and Technical Education.

At the opening of the present century training in handicrafts had been introduced in the schools of several of the provinces in the form of manual training for boys and domestic science for girls. At the same time commercial courses were appearing in the secondary school curricula. From these beginnings vocational courses made rapid strides until in the year 1929 there was one pupil following a course in day technical schools for every four in secondary schools of general education, while the number in evening technical courses was 50 p.c. greater than in day. The courses offered vary widely, not only with the aptitudes of the pupils, but with the industrial characteristics of the areas served by the various schools. Household science, commercial and general industrial courses are widely offered, while mining, pulp and paper, navigation and other definitely specialized classes are held only in the localities of the corresponding industries.

Aid Given by Dominion Government.—While educational administration is a matter for the provinces, the Dominion Government, realizing at once the weight of the provinces' burden of educational costs, and the national importance of vocational education, has twice during the past two decades supplemented the provincial funds available for the furtherance of technical instruction. In 1913 the Agricultural Instruction Act was passed, distributing $10,000,000 in 10 years among the provinces for the advancement of agricultural education. In 1919 a similar sum was voted for technical education, to be divided within 10 years among the provinces, approximately in proportion to population, but so as not to exceed the sums expended by the provinces toward the same end. At the end of the ten-year period only the province of Ontario had earned the whole of its share of the grants in question, and by c. 8 of the Statutes of 1929 the other eight provinces were granted a further period of five years in which to earn the remainder of their respective shares. The total of these balances at Mar. 31, 1930, was $1,622,113.

The number of students in institutions for technical education coming within the scope of the Technical Education Act of 1919 (9-10 Geo. V, c. 73) in the academic years ended June 30, was as follows:—1921, 56,774; 1922, 61,961; 1923, 70,300; 1924, 79,829; 1925, 88,024; 1926, 88,961; 1927, 96,682; 1928, 109,008; 1929, 121,252; 1930, 125,644 (Table 10).

10.—Vocational Schools, Teachers and Pupils in Canada, by Provinces, School Year ended June 30, 1930, with Totals for 1929.

Province.	Number of Municipalities Conducting Classes.		Number of Teachers.				Number of Pupils.			
	Day.	Evening.	Day.	Evening.	Correspondence Department.	Total.	Day.	Evening.	Correspondence Department.	Total.
Prince Edward Island	1	4	23	4	–	27	1,025	69	–	1,094
Nova Scotia	1	26	16	56	23	95	2,031	2,769	1,925	6,725
New Brunswick	8	9	67	91	–	158	1,259	1,899	–	3,158
Quebec	13	14	145	449	–	594	5,377	14,516	–	19,893
Ontario (1929)	38	59	999	1,399	–	2,398	26,730	41,593	–	68,323
Manitoba	5	2	101	157	1	259	3,058	3,333	593	6,984
Saskatchewan	3	3	61	55	–	116	1,144	1,701	–	2,845
Alberta	3	8	104	96	4	204	2,577	2,032	235	4,844
British Columbia	13	45	160	261	9	430	4,887	6,671	220	11,778
Totals, 1930[1]	85	170	1,676	2,568	37	4,281	48,088	74,583	2,973	125,644
Totals, 1929	89	192	1,694	2,666	29	4,389	45,617	73,877	1,447	121,252

[1] These totals include 1929 figures for Ontario, the 1930 figures not being available at the time of going to press.

Subsection 3.—Higher Education.

In the statistical tables which follow, 23 universities and 101 colleges are recorded. Of the colleges, 52 are in the province of Quebec, including 24 classical colleges and little seminaries, 10 independent, non-subsidized institutions for classical education, and 11 others where superior education is given. The "classical colleges" and "little seminaries" are officially classed as "secondary" institutions, but the meaning of "secondary", as referring to Catholic education in Quebec, includes the provision of a full course in arts, the degrees being conferred by Laval University or the University of Montreal.

Universities.—Of the 23 universities, six are provincially-controlled (New Brunswick, Toronto, Manitoba, Saskatchewan, Alberta and British Columbia); four others are undenominational (Dalhousie, McGill, Queen's and Western); while the remainder are denominational—St. Dunstan's, St. Francis Xavier, St. Joseph's, Laval, Montreal and Ottawa representing the Roman Catholic Church; King's, Bishop's, and Trinity College representing the Church of England; Acadia and McMaster representing the Baptist Church; and Mount Allison and Victoria representing the United Church of Canada. Victoria and Trinity are in federation with Toronto and King's in close association with Dalhousie.

Colleges.—Of the 101 colleges recorded a total of 56, in so far as they did work of university grade, did only arts work. These 56 included 24 classical colleges and little seminaries and 10 independent classical schools in Quebec. The remaining 45 included 33 carrying theology, usually as their main work. The theological colleges listed in the table, with the religious denominations they represent, are as follows:—

United Church: Pine Hill Divinity Hall, Halifax; United Theological College, Montreal; Emmanuel College, Toronto; Manitoba College, Winnipeg; St. Andrew's College, Saskatoon; St. Stephen's College, Edmonton; and Union College, Vancouver. *Presbyterian:* Presbyterian College, Montreal; Knox College, Toronto. *Roman Catholic:* Holy Heart College, Halifax; 11 independent superior schools, Que.; St. Augustine's Seminary, Toronto; Mt. Carmel College, Niagara Falls; Studentat des Redemptoristes, Ottawa. *Anglican:* Diocesan Theological College, Montreal; Wycliffe College, Toronto; Huron College, London; St. John's College, Winnipeg; St. Chad's College, Regina; Emmanuel College, Saskatoon; and Anglican Theological College, Vancouver. *Lutheran:* Evangelical Lutheran Seminary, Waterloo, Ont.; Lutheran College and Seminary, Saskatoon, Sask. It should also be noted that several of the universities have theological faculties.

Apart from the arts and theological colleges there remain several professional schools, the type of instruction in each being apparent from the name of the institution as it appears in Table **17** below. The most numerous group is composed of agricultural colleges, there being five of these. The list of colleges is not exhaustive. Within some of the larger university systems there are included important individual schools which are not mentioned separately, because, as a result of their affiliation with the University, their enrolment is reported by the latter. (See General Note to Table **17**.) The list is intended to include all institutions offering a course of instruction of at least two years in advance of matriculation, or its equivalent in seminaries where preparatory requirements are not definitely expressed in terms of matriculation.

Registration of Students.—The gross enrolment reported by universities was 57,254, by colleges 25,137. It is not uncommon, however, for a student to be taking part of his work in a university and part in an affiliated collgee—hence to be reported by both institutions. After eliminating these duplications the net total of students enrolled during the year was found to be 72,152, of whom 46,354 were males and 25,798 were females. Almost exactly 50 p.c. or 36,038 were engaged in work of university standard, *i.e.,* were in courses for which matriculation is pre-requisite. Of these, 23,543 were men, 12,495 women. Those attending the regular full-year session were distributed in the several branches of learning as follows:—

Arts and pure science, 18,200; engineering and applied science 2,787; medicine 2,763; pedagogy 2,480; philosophy and theology, 2,430; music, 2,010; agriculture 1,266; household science, 1,261; commerce, 1,280; law, 884; public health and nursing, 847; pharmacy, 550; dentistry, 452; forestry, 171; veterinary science, 156; social service, 116; etc. Extra-mural students and short-course students numbered 15,638, of whom 4,779 were studying for degrees.

Degrees Conferred.—In the total of 6,772 degrees, licences and diplomas granted by universities and colleges, 2,427 or 35·7 p.c. were conferred on women, 4,345 on men. The most popular degree with both sexes is that of B.A., 1,274 being received by men, 912 by women. Next in order with men are M.D. 639, and B.Sc. 322.

Financial Statistics.—Total reported assets of universities and colleges amounted to $129,080,661. This includes endowments, lands, buildings, equipment and all other property of the institutions reporting, except in a few cases where the value of property was not appraised. Total income for the academic year was $15,074,337, of which $2,435,344 was derived from investments or endowments, $6,383,338 from provincial or municipal grants, $2,969,265 from tuition and other fees (excepting board and lodging) paid by the students, and the balance from other or unclassified sources. On the side of expenditure 4·9 p.c. was reported as capital expenditure.

11.—Universities of Canada: Foundation, Affiliation and Faculties.

NOTE.—For details of degrees conferred by these universities in 1929, see pp. 108–111 of the Bureau of Statistics' Annual Survey of Education in Canada, 1929. For summary of degrees conferred, see Table **15** of this chapter.

Name and Address.	Date of— original Foundation.	Date of— present Charter.	Affiliation with other Universities.	Faculties or Sub-faculties Active in 1929.
University of St. Dunstan, Charlottetown, P.E.I.	1855	—	Laval....................	Arts and Preparatory Arts and Commerce.
University of King's College, Halifax, N.S.[1]	1789	1802	Oxford and Cambridge[1]..	Arts, Science, Theology.
Dalhousie University, Halifax, N.S.	1818	1863	Oxford and Cambridge...	Arts, Science, Law, Medicine, Commerce, Dentistry, Engineering, Music and Pharmacy.
Acadia University, Wolfville, N.S.	1838	1840	Oxford, Dalhousie, McGill and Nova Scotia Technical.	Arts, Science, Engineering, Theology, Household Science and Music.
University of St. Francis Xavier, Antigonish, N.S.	1855	1909	—	Arts, Science, Engineering and Preparatory.
University of New Brunswick, Fredericton, N.B.	1800	1860	Oxford, Cambridge, Dublin, McGill.	Arts, Science, Law, Engineering and Forestry.
Mount Allison University, Sackville, N.B.	1858	1886-1913	Dalhousie, Oxford and Cambridge.	Arts, Science, Engineering, Household Science, Medicine and Music.
St. Joseph's University, St. Joseph, N.B.	1864	1898	Oxford..................	Arts, Science, Theology and Preparatory Arts and Commerce.
McGill University, Montreal, Que.	1821	1852	Acadia, Mount Allison, St. Francis-Xavier, Alberta, are affiliated with McGill in the Faculty of Applied Science.	Arts, Science, Law, Medicine, Agriculture, Architecture, Commerce, Dentistry, Engineering, Household Science, Music, Pharmacy, Nursing, Social Service, Physical Education and Library School.
Bishop's University, Lennoxville, Que.	1843	1853	Oxford and Cambridge...	Arts, Theology, Education, Music.
Laval University, Quebec, Que.	1852	1852	—	Theology, Law, Medicine, Arts, Science, Letters, Philosophy, Agriculture, Commerce, Forestry, Household Science, Nursing, Pharmacy, Music, Preparatory.
University of Montreal, Montreal, Que.	1878	1920	—	Theology, Law, Medicine, Arts, Science, Agriculture, Commerce, Dentistry, Engineering, Pharmacy, Veterinary Science, Household Science, Letters, Philosophy, Education, Nursing, Social Service, Optometry and Preparatory.
University of Toronto, Toronto, Ont.	1827	1906	Oxford, Cambridge and Dublin.	Arts, Science, Engineering, Agriculture, Forestry, Medicine, Dentistry, Architecture, Education, Household Science, Public Health, Social Service, Occupational Therapy, Pharmacy, Music, Commerce.

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[1] Associated with Dalhousie.

11.—Universities of Canada: Foundation, Affiliation and Faculties—concluded.

Name and Address.	Date of— original Foundation.	Date of— present Charter.	Affiliation with other Universities.	Faculties or Sub-faculties Active in 1929.
Victoria University, Toronto, Ont.	1836	1836	Toronto (Federated)......	Arts and Theology.
University of Trinity College, Toronto, Ont.	1851	1852	Toronto (Federated)......	Arts and Theology.
University of Western Ontario, London, Ont.	1878	1923	—	Arts, Medicine and Public Health.
Queen's University, Kingston, Ont.	1841	1841	—	Arts, Science, Engineering, Medicine, Theology, Navigation, Commerce.
University of Ottawa, Ottawa, Ont.	1849	1866	—	Theology, Philosophy, Arts, Education, Nursing.
McMaster University, Hamilton, Ont.	1857	1887	Oxford, Cambridge, London.	Arts, Theology.
University of Manitoba, Winnipeg, Man.	1877	1877	—	Arts, Science, Law, Medicine, Engineering, Architecture, Pharmacy, Agriculture, Household Science.
University of Saskatchewan, Saskatoon, Sask.	1907	1907	Oxford....................	Arts, Science, Law, Agriculture, Engineering, Pharmacy, Accounting, Education, Pre-Medicine, Household Science.
University of Alberta, Edmonton, Alta.	1906	1910	Oxford, McGill and Toronto.	Arts and Science, Engineering, Commerce, Agriculture, Medicine, Dentistry, Law, Pharmacy, Household Science, Nursing.
University of British Columbia, Vancouver, B.C.	1907	1908	—	Arts, Engineering, Agriculture, Education, Nursing.

12.—Universities of Canada: Teaching Staff, Classified as Full Time and Part Time, by Sex, 1928-29.

Total Teaching Staff (excluding duplicates).

Name of University.	Professors.		Associate Prof.		Assist. Prof.		Lecturers.		Instructors.		Tutors, Assistants and Others.		Total Teaching Staff.		Grand Total. — Both Sexes.
	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	
(a) Total Staff.															
St. Dunstan's	11	–	4	–	–	–	–	–	–	–	–	–	15	–	15
King's	6	–	2	–	2	–	5	–	–	–	–	–	15	–	15
Dalhousie	45	–	10	–	13	–	31	1	2	1	39	4	140	6	146
Acadia	23	1	5	–	6	1	1	–	4	12	–	1	39	15	54
St. Francis Xavier	22	–	–	–	4	2	–	–	–	–	–	–	26	2	28
New Brunswick	13	–	–	–	3	–	15	–	–	–	–	–	31	–	31
Mount Allison	14	–	–	–	–	–	2	2	8	2	–	–	24	4	28
St. Joseph's	22	–	–	–	2	–	–	–	12	–	–	–	36	–	36
McGill	82	1	29	1	74	3	100	17	152	19	16	10	453	51	504
Bishop's	9	–	–	–	–	–	4	–	–	–	–	–	13	–	13
Laval[1]	85	–	32	–	17	–	27	–	5	–	4	–	170	–	170
Montreal	594	193	72	–	22	–	78	–	–	–	23	3	789	196	985
Toronto	107	2	69	5	50	1	98	21	10	8	307	34	641	71	712
Victoria	22	–	8	1	–	–	5	2	–	1	4	2	39	6	45
Trinity	10	1	3	1	–	–	8	2	–	–	–	–	21	4	25
Western	45	4	19	–	26	3	32	4	47	19	13	9	182	39	221
Queen's	51	1	17	–	19	–	27	–	27	–	52	18	193	19	212
Ottawa	–	–	152	40	–	–	–	–	–	–	–	–	152	40	192
McMaster	16	–	–	–	2	1	4	–	–	–	8	–	30	1	31
Manitoba	46	1	31	–	41	2	59	6	–	–	96	14	273	23	296
Saskatchewan	35	–	27	3	6	3	9	–	17	3	16	2	110	11	121
Alberta	41	1	23	1	29	–	24	2	19	4	21	–	157	8	165
British Columbia	37	–	27	2	21	3	4	–	7	3	32	29	128	37	165
Totals	**1,336**	**205**	**530**	**54**	**337**	**19**	**533**	**57**	**310**	**72**	**631**	**126**	**3,677**	**533**	**4,210**
(b) Full-time.															
St. Dunstan's	11	–	4	–	–	–	–	–	–	–	–	–	15	–	15
King's	6	–	2	–	2	–	2	–	–	–	–	–	12	–	12
Dalhousie	27	–	9	–	7	–	5	–	2	–	7	2	57	2	59
Acadia	23	1	5	–	6	1	1	–	4	12	–	1	39	15	54
St. Francis Xavier	22	–	–	–	2	2	–	–	–	–	–	–	24	2	26
New Brunswick	12	–	–	–	3	–	–	–	–	–	–	–	15	–	15
Mount Allison	14	–	–	–	–	–	2	2	8	2	–	–	24	4	28
St. Joseph's	12	–	–	–	2	–	–	–	5	–	–	–	19	–	19
McGill	57	1	25	1	45	3	31	13	27	14	13	9	198	41	239
Bishop's	9	–	–	–	–	–	4	–	–	–	–	–	13	–	13
Laval[1]	11	–	4	–	3	–	1	–	–	–	4	–	23	–	23
Montreal	438	180	5	–	–	–	19	–	–	–	6	3	468	183	651
Toronto[2]	107	2	69	5	50	1	98	21	10	8	307	34	641	71	712
Victoria	18	–	8	1	–	–	3	2	–	1	2	2	31	6	37
Trinity	10	1	3	1	–	–	2	2	–	–	–	–	15	4	19
Western	32	4	10	–	15	3	–	–	14	10	4	1	75	18	93
Queen's	44	1	13	–	14	–	22	–	17	–	52	18	162	19	181
Ottawa	–	–	152	40	–	–	–	–	–	–	–	–	152	40	192
McMaster	16	–	–	–	2	1	1	–	–	–	–	–	19	1	20
Manitoba	39	1	–	–	37	2	16	6	–	–	10	3	102	12	114
Saskatchewan	35	–	27	3	6	3	9	–	17	3	16	2	110	11	121
Alberta	38	1	20	1	15	–	10	2	5	4	2	–	90	8	98
British Columbia	37	–	27	2	21	3	1	–	7	3	8	12	101	20	121
Totals	1,018	192	383	54	230	19	227	48	116	57	431	87	2,405	457	2,862
(c) Part-time.															
King's	–	–	–	–	–	–	3	–	–	–	–	–	3	–	3
Dalhousie	18	–	1	–	6	–	26	1	–	1	32	2	83	4	87
St. Francis Xavier	–	–	–	–	2	–	–	–	–	–	–	–	2	–	2
New Brunswick	1	–	–	–	–	–	15	–	–	–	–	–	16	–	16
St. Joseph's	10	–	–	–	–	–	–	–	7	–	–	–	17	–	17
McGill	25	–	4	–	29	–	69	4	125	5	3	1	255	10	265
Laval	74	–	28	–	14	–	26	–	5	–	–	–	147	–	147
Montreal	156	13	67	–	22	–	59	–	–	–	17	–	321	13	334
Victoria	4	–	–	–	–	–	2	–	–	–	2	–	8	–	8
Trinity	–	–	–	–	–	–	6	–	–	–	–	–	6	–	6
Western	13	–	9	–	11	–	32	4	33	9	9	8	107	21	128
Queen's	7	–	4	–	5	–	5	–	10	–	–	–	31	–	31
McMaster	–	–	–	–	–	–	3	–	–	–	8	–	11	–	11
Manitoba	7	–	31	–	4	–	43	–	–	–	86	11	171	11	182
Alberta	3	–	3	–	14	–	14	–	14	–	19	–	67	–	67
British Columbia	–	–	–	–	–	–	3	–	–	–	24	17	27	17	44
Totals	318	13	147	–	107	–	306	9	194	15	200	39	1,272	76	1,348

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[1] Incomplete. [2] Full-time and part-time staff not distinguishable. All entered as full-time.

13.—Universities of Canada: Summary of Student Enrolment, by Sex, 1928-29.

Name of University.	A			B			Numbers of Students Included in A who are Doing—								
							C			D			E		
	Total Enrolment.			Number of A also Enrolled in Affiliated Colleges.			Work of University Standard.			Pre-matriculation Work.			Work not Included in C or D.		
	Men.	Women	Total.	Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.
St. Dunstan's, P.E.I.	178	-	178	-	-	-	71	-	71	72	-	72	35	-	35
King's	59	18	77	-	-	-	54	16	70	2	2	4	3	-	3
Dalhousie	615	254	869	-	-	-	615	254	869	-	-	-	-	-	-
Acadia	311	361	672	-	-	-	278	259	537	35	100	135	1	2	3
St. Francis Xavier	243	122	365	-	-	-	205	73	278	38	14	52	-	35	35
Totals, N.S.	1,186[1]	737[1]	1,923[1]	-	-	-	1,110[1]	584[1]	1,694[1]	75	116	191	4	37	41
New Brunswick	242	87	329	-	-	-	242	87	329	-	-	-	-	-	-
Mount Allison	396	255	651	-	-	-	381	240	621	15	15	30	-	-	-
St. Joseph's	355	-	355	-	-	-	72	-	72	283	-	283	-	-	-
Totals, N.B.	993	342	1,335	-	-	-	695	327	1,022	298	15	313	-	-	-
McGill	2,974	1,462	4,436	-	-	-	2,297	894	3,191	-	-	-	677	568	1,245
Bishop's	117	40	157	-	-	-	117	40	157	-	-	-	-	-	-
Laval	6,288	4,492	10,780	5,238	4,477	9,715	2,220	834	3,054	4,068	3,658	7,726	-	-	-
Montreal	6,615	4,161	10,776	1,502	83	1,585	2,929	1,790	4,719	2,826	1,304	4,130	860	1,067	1,927
Totals, Que.	15,994	10,155	26,149	6,740	4,560	11,300	7,563	3,558	11,121	6,894	4,962	11,856	1,537	1,635	3,172
Toronto	5,046	4,221	9,267	371	137	508	3,900	2,522	6,422	-	-	-	1,146	1,699	2,845
Victoria	448	425	873	-	-	-	448	425	873	-	-	-	-	-	-
Trinity	169	137	306	-	-	-	169	137	306	-	-	-	-	-	-
Western	828	720	1,548	133	63	196	692	368	1,060	-	-	-	136	352	488
Queen's	2,556	1,117	3,673	-	-	-	2,035	1,117	3,152	-	-	-	521	-	521
Ottawa	1,601	945	2,546	416	697	1,113	335	90	425	983	520	1,503	283	335	618
McMaster	282	133	415	-	-	-	282	133	415	-	-	-	-	-	-
Totals, Ont.	10,428[2]	7,161[2]	17,589[2]	920	897	1,817	7,359[2]	4,255[2]	11,614[2]	983	520	1,503	2,086	2,386	4,472

For footnotes see end of table, p. 981.

13.—Universities of Canada: Summary of Student Enrolment, by Sex, 1928-29—concluded.

Name of University.	A			B			Numbers of Students Included in A who are Doing—								
	Total Enrolment.			Number of A also enrolled in Affiliated Colleges.			C Work of University Standard.			D Pre-matriculation Work.			E Work not Included in C or D.		
	Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.
Manitoba	2,473	1,277	3,750	235	116	351	1,882	1,047	2,929	27	40	67	564	190	754
Saskatchewan	1,673	776	2,449	48	36	84	862	363	1,225	–	–	–	811	413	1,224
Alberta	1,040	476	1,516	23	–	23	922	434	1,356	40	42	82	78	–	78
British Columbia	1,349	1,016	2,365	–	–	–	1,245	945	2,190	–	–	–	104	71	175
Grand Totals	**35,314**	**21,940**	**57,254**	**7,966**	**5,609**	**13,575**	**21,709**[1,2]	**11,513**[1,2]	**33,222**[1,2]	**8,389**	**5,695**	**14,084**	**5,219**	**4,732**	**9,951**

[1] Duplication of 42 male and 18 female students eliminated in total for N.S. [2] Duplication of 502 male and 537 female students between Trinity, Victoria and Toronto has been eliminated in total. Figures for Toronto include registrations in the federated colleges as follows: Victoria, 357 males and 403 females; Trinity, 145 males and 134 females; St. Michael's, 142 males and 128 females.

14.—Universities of Canada: Number of Full-time Students in Arts, Pure Science, Letters and Philosophy, by Academic Years, 1928-29.

Name of University.	Preparatory.	1st Year.	2nd Year.	3rd Year.	4th Year.	Total.	Graduate.	Total Full-time Arts, etc.	Number of First Degrees. (Arts,etc.)
St. Dunstan's	72	20	20	19	12	71	-	143	8
King's	4	-	-	-	-	68	4	76	-
Dalhousie	-	-	-	-	-	492	8	500	85
Acadia	135	-	-	-	-	329	15	479	73
St. Francis Xavier	52	127	65	43	30	265	13	330	30
New Brunswick	-	50	39	32	28	149	-	149	26
Mount Allison	-	61	61	60	44	226	4	230	29
St. Joseph's	238	22	21	19	10	72	-	310	8
McGill	-	331	280	175	232	1,018	[1]	1,018	226
Bishop's	-	48	27	43	-	118	4	122	37
Laval	7,726	401	376	297	271	1,345	39	9,110	167
Montreal	4,130	488	463	387	350	1,688	-	5,818	262
Toronto[2]	-	850	730	546	468	2,594	216	2,810	492
Victoria				Included with Toronto					
Trinity				Included with Toronto					
Western	-	266	194	157	95	712	12	724	112
Queen's	-	-	-	-	-	713	16	729	172
Ottawa	1,364	76	59	37	12	209[3]	23	1,596	43[4]
McMaster	-	74	79	66	57	276	5	281	56
Manitoba	-	480	413	270	218	1,426[5]	10	1,436	221
Saskatchewan	-	141	272	181	136	730	25	755	123
Alberta	-	111	119	107	90	427	5	432	68
British Columbia	-	555	312	225	182	1,274	42	1,316	213
Totals	**13,721**	-	-	-	-	**14,200**	**441**	**28,362**	**2,451**
Totals for 17 universities giving students by years	13,582	4,111	3,530	2,664	2,235	12,600	398	26,580	2,121

[1] Included under graduate school and not shown separately for Arts. [2] Includes Commerce students and B. Comm. degrees. [3] Includes 25 in philosophy not given by years. [4] Including 26 Ph.B's. [5] Includes 35 honour students in fifth year.

15.—Number of Degrees Conferred, by Sex of Recipients, 1928-29.

Name of University.	Bachelor Degrees.		Master Degrees, Including M.D.		Doctor Degrees.		Licentiates, Diplomas and Certificates.		Totals.		Grand Total.
	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.	
St. Dunstan's	8	-	-	-	-	-	-	-	8	-	8
King's[1]	-	-	-	-	-	-	-	-	-	-	-
Dalhousie	92	42	4	4	-	-	16	1	112	47	159
Acadia	46	41	5	1	4	-	22	25	77	67	144
St. Francis Xavier	22	8	1	2	-	-	-	-	23	10	33
New Brunswick	32	13	2	-	4	-	-	-	38	13	51
Mount Allison	29	13	-	-	5	-	7	5	41	18	59
St. Joseph's	9	-	8	-	1	-	-	-	18	-	18
McGill	241	111	117	17	24	-	9	68	391	196	587
Bishop's	26	11	-	-	-	-	8	7	34	18	52
Laval	228	1	30	-	9	-	49	590	316	591	907
Montreal	341	20	57	-	1	-	181	50	580	70	650
Toronto	599	296	456	55	12	5	6	83	1,073	439	1,512
Victoria[2]	9	-	-	-	10	-	-	-	19	-	19
Trinity[2]	2	-	-	-	5	-	5	-	12	-	12
Western	72	41	34	1	2	-	-	4	108	46	154
Queen's	160	100	13	9	-	-	-	-	173	109	282
Ottawa	50	6	5	1	4	-	26	1	95	8	103
McMaster	43	23	9	2	3	-	4	-	59	25	84
Manitoba	172	123	63	8	5	-	33	26	273	157	430
Saskatchewan	107	60	15	6	2	-	59	20	183	86	269
Alberta	79	45	35	1	2	-	9	25	125	71	196
British Columbia	122	100	17	1	-	-	-	-	139	101	240
Totals (exclusive of duplications)	**2,499**	**1,054**	**871**	**108**	**93**	**5**	**434**	**905**	**3,897**	**2,072**	**5,969**

[1] All degrees except those in Theology entered under Dalhousie.
[2] All degrees except those in Theology entered under Toronto.

16.—Universities of Canada: Financial Statistics, 1928-29.

Name of University.	Assets.				Sources of Income.					Expenditures.		
	Endowments.	Lands, Buildings and Equipment.	Other Property.	Total Assets.	Investments.	Governments and Municipalities.	Fees.[1]	Other Sources.[2]	Total Income.	Current.	Capital.	Total Expenditure.
	$	$	$	$	$	$	$	$	$	$	$	$
St. Dunstan's, P.E.I.	24,000	284,000	25,000	333,000	900	-	600	48,000	49,500	42,000	4,000	46,000
King's	161,022	9,237	-	170,259	9,760	-	4,333	53,009	67,102	68,424	-	68,424
Dalhousie	1,605,695	2,450,000	-	4,055,695	93,019	500	125,665	33,243	252,427	260,253	11,156	271,409
Acadia	1,051,419	1,535,220	34,000	2,620,639	41,126	-	63,039	28,716	132,881	159,995	-	159,995
St. Francis Xavier	324,957	506,219	-	831,176	30,092	-	2,613	85,402	118,107	103,224	9,596	112,820
Totals, N.S.	3,143,093	4,500,676	34,000	7,677,769	173,997	500	195,650	200,370	570,517	591,896	20,752	612,648
New Brunswick	65,000	750,000	600,000	1,415,000	2,827	40,000	28,741	1,248	72,816	71,249	-	71,249
Mt. Allison	565,607	504,716	-	1,070,323	31,602	-	33,405	76,315	141,322	141,322	2,904	144,226
St. Joseph's	-	381,000	40,000	421,000	-	-	17,800	73,900	91,700	83,754	1,035	84,789
Totals, N.B.	630,607	1,635,716	640,000	2,906,323	34,429	40,000	79,946	151,463	305,838	296,325	2,939	300,264
McGill	18,193,720	12,051,384	-	30,245,104	1,092,536	72,125	470,306	486,933	2,121,900	2,308,005	-	2,308,005
Bishop's	584,856	300,884	-	885,740	27,321	3,500	17,925	33,664	82,410	114,567	-	114,567
Laval[3]	2,289,496	2,000,000	-	4,289,496	104,734	40,000	62,344	13,378	220,456	226,875	-	226,875
Montreal[3]	2,707,816	3,404,169	-	6,111,985	-	-	-	-	312,486[4]	353,637	-	353,637
Totals, Que.	23,775,888	17,756,437	-	41,532,325	-	-	-	-	2,737,252	3,003,084	-	3,003,084
Toronto	-	-	-	15,746,193[4]	116,611	1,893,043	562,771	142,459	2,714,884	2,445,809	378,025	2,823,834
Victoria	2,859,484	1,431,119	-	4,290,603	156,711	-	49,374	35,359	241,444	259,705	-	259,705
Trinity	842,865	1,128,385	22,930	1,994,180	37,463	-	21,869	105,015	164,347	163,815	-	163,815
Western	279,598	2,171,474	-	2,451,072	-	355,000	100,277	5,647	460,874	470,712	4,654	475,366
Queen's	2,294,375	4,000,000	-	6,294,375	131,318	302,200	221,867	21,087	676,472	660,540	-	660,540
Ottawa	-	-	-	1,200,000[4]	-	-	-	-	188,000[4]	194,000	-	194,000
McMaster	1,112,313	451,811	218,350	1,782,474	62,922	-	27,086	37,976	127,984	133,442	-	133,442
Totals, Ont.	-	-	-	33,758,897	-	-	-	-	4,574,005	4,328,023	382,679	4,710,702

For footnotes see end of table p. 984.

16.—Universities of Canada: Financial Statistics, 1928-29—concluded.

Name of University.	Assets.				Sources of Income.					Expenditures.		
	Endowments.	Lands, Buildings and Equipment.	Other Property.	Total Assets.	Investments.	Governments and Municipalities.	Fees.[1]	Other Sources.[2]	Total Income.	Current.	Capital.	Total Expenditure.
	$	$	$	$	$	$	$	$	$	$	$	$
Manitoba..........	1,600,000	6,106,083[5]	450,000	8,156,083[5]	92,500	465,000	226,203	169,667	953,370	954,230	-	954,230
Saskatchewan.......	30,830	3,927,010	57,031	3,957,840	1,170	673,382	64,590	17,301	756,443	725,329	71,703	797,032
Alberta............	500,000	4,451,173	122,747	5,073,920	-	471,303	125,780	78,421	675,504	674,752	70,385	745,137
British Columbia...	35,000	3,633,502	243,413	3,911,915	34,639	570,200	194,713	19,466	819,018	708,031	91,016	799,047
Grand Totals .	-	-	-	**107,308,072**	-	-	-	-	**11,441,447**	**11,323,670**	**644,474**	**11,968,144**

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[1] Other than board and lodging. [2] Including board and lodging. [3] It should be noticed that the financial items shown for Montreal and Laval do not include the great part of the affiliated institutions. Since such institutions in each case form a more important part of the university organization than in the case of most of the other universities, the financial figures are proportionately understated by their non inclusion. In 1928-29 the expenditure of the classical colleges affiliated with Montreal was about $1,400,000; of the classical colleges affiliated with Laval roughly $800,000. This added to the expenditure given in the table would place the figure on a more comparable basis with those of other universities. It is not always possible to separate, in the case of the affiliations of any university, the financial obligations incurred on account of students credited to these universities from the obligations incurred on account of high school, technical and even elementary pupils and students. [4] Component items not distinguishable. [5] Includes property to the value of $4,354,083 (Man. Agric. College, $4,072,521, etc.) vested in the Provincial Government, but used by the University.

17.—Professional and Affiliated Colleges of Canada: Number and Sex of Teaching Staff and Students, by Individual Institutions, 1928-29.

General Note.—Data for colleges are incomplete, as reports were not received from a few colleges for 1928-29. Moreover, within some of the larger university systems there are included important individual schools which are not mentioned separately, because, as a result of their affiliation with the University their enrolment is reported by it. In illustration of this may be cited the case of the École Polytechnique, College Marguerite-Bourgeoys, Institut Pédagogique St. Georges, etc., affiliated with the University of Montreal, and seven Grand Seminaries (theology), the Secondary School for Girls, etc., affiliated with the University of Laval.

Name and Address.	Date of Foundation.	Number of Teaching Staff.			Number of Students.			Affiliation.
		M.	F.	Total.	M.	F.	Total.	
Prince of Wales College, Charlottetown, P.E.I.	1860	7	10	17	102	203	305	Queen's, McGill and all Maritime Universities.
Mount Saint Vincent College, Halifax, N.S.	–	–	25	25	–	218	218	Dalhousie.
Holy Heart College, Halifax, N.S.[1]	1894	8	–	8	62	–	62	
Nova Scotia College of Agriculture, Truro, N.S.	1888	12	1	13	95	24	119	Macdonald.
Nova Scotia Technical College, Halifax, N.S.	1907	15	–	15	294	110	404	Acadia, Dalhousie, Kings, Mt. Allison, St. Francis Xavier, St. Mary's.
Pine Hill Divinity Hall, Halifax, N.S.	1820	10	–	10	22	17	39	Dalhousie, Mt. Allison.
Collège Saint Anne, Church Point, Digby Co., N.S.	1890	15	1	16	145	–	145	
St. Mary's College, Halifax, N.S.	1841	15	–	15	208	–	208	Nova Scotia Technical.
Totals, Nova Scotia	–	75	27	102	826	369	1,195	
Collège du Sacré Cœur, Bathurst West, N.B.	–	23	–	23	250	–	250	
Diocesan Theological College, Montreal, Que.	1873	4	–	4	41	–	41	McGill.
École des Hautes Études Commerciales, Montreal, Que.	1907	31	–	31	850	40	890	Montreal.
Macdonald College, P.Q.	1907	38	14	52	506	304	810	McGill (Incorp.).
Oka Agricultural College, Oka, Que.[1]	1893	22	–	22	156	–	156	Montreal.
Presbyterian College, Montreal, Que.	1865	6	–	6	53	–	53	McGill.
Ste. Anne de la Pocatière College, Que.[1]	1859	16	–	16	352	–	352	Laval.
United Theological College, Montreal, Que.	1925	14	1	15	158	–	158	McGill.
Classical Colleges of Quebec—								
Chicoutimi (Little Seminary)	1873	54	–	54	534	–	534	Laval.
Gaspé	1926	8	–	8	72	–	72	Laval.
Joliette (Little Seminary)	1846	50	–	50	398	–	398	Montreal.
L'Assomption Classical College	1832	43	–	43	406	–	406	Montreal.
Levis Classical College	1853	65	–	65	752	–	752	Laval.
Mont Laurier (Little Seminary)	1915	28	–	28	137	–	137	Laval.
Montreal (Jean de Brébeuf)	1928	52	–	52	595	–	595	
Montreal (Loyola) Classical College	1896	30	–	30	401	–	404	
Montreal (Ste. Marie) Classical College.	1848	25	–	25	499	–	499	Montreal.
Montreal (St. Sulpice) Classical College.	1767	31	–	31	434	–	434	Montreal.
Nicolet (Little Seminary)	1803	49	–	49	336	–	336	Laval.
Quebec (Little Seminary)	1663	60	–	60	1,005	–	1,005	Laval.
Rigaud Classical College	1851	50	–	50	408	–	408	Montreal.
Rimouski (Little Seminary)	1855	40	–	40	340	–	340	Laval.
St. Alexandre de la Gatineau Classical College.	1911	15	–	15	186	–	186	Laval.
Ste. Anne de la Pocatière Classical College.	1827	58	–	58	649	–	649	Laval.
St. Hyacinthe (Little Seminary)	1811	45	–	45	518	–	518	Montreal.
St. Jean Classical College	1911	36	–	36	313	–	313	Montreal.
St. Laurent (Little Seminary)	1847	81	–	81	613	–	613	Montreal.
Ste. Thérèse (Little Seminary)	1825	43	–	43	319	–	319	Montreal.
St. Victor de Tring	1910	8	–	8	130	–	130	Laval.
Sherbrooke (Little Seminary)	1875	47	–	47	486	–	486	Montreal.
Three Rivers (Little Seminary)	1860	43	–	43	500	–	500	Laval.
Valleyfield Classical College	1893	30	–	30	274	–	274	Montreal.

For footnotes see end of table, p. 987

17.—Professional and Affiliated Colleges of Canada: Number and Sex of Teaching Staff and Students, by Individual Institutions, 1928-29—continued.

Name and Address.	Date of Foundation.	Number of Teaching Staff.			Number of Students.			Affiliation.
		M.	F.	Total.	M.	F.	Total.	
Independent non-subsidized classical institutions of Quebec—								
École apostolique des Miss. du S.-C. Beauport.	1912	10	-	10	65	-	65	
Juniorat de Marie Immaculée (Oblats), Chambly.	1926	10	-	10	92	-	92	
Juvénat St. Bernard (Cisterciens), Mistassini.	1913	5	-	5	26	-	26	
École St. Ignace (Jésuites), Montreal.	1927	6	-	6	80	-	80	
Collège Grasset (Sulpiciens), Montreal	1927	7	-	7	133	-	133	
Juvénat de la Compagnie de Marie, Papineauville.	1908	9	-	9	95	-	95	
Collège missionnaire (Franciscains), Sorel.	1922	5	-	5	61	-	61	
Juvénat des Rédemptoristes, Ste. Anne de Beaupré.	1896	13	-	13	155	-	155	
Juvénat des R.P. du T. S. Sacrement, Terrebonne	1902	8	-	8	60	-	60	
Collège Séraphique (Franciscains), Trois-Rivières.	1892	10	-	10	125	-	125	
Independent non-subsidized Superior Institutions of Quebec—								
Séminaire des Pères Eudistes, Charlesbourg.	1923	6	-	6	17	-	17	
Maison St. Joseph (Jésuites), Charlesbourg.	1853	7	-	7	21	-	21	
Scolasticat de l'Immaculate Conception (Jésuites), Charlesbourg.	1885	19	-	19	115	-	115	
Scolasticat des Religieux du Très Saint Sacrement, Montreal.	1890	8	-	8	33	-	33	
Séminaire de Philosophie (Sulpiciens), Montreal.	1876	10	-	10	146	-	146	
Studium Franc. de Théologie, Montreal.	1921	5	-	5	46	-	46	
Maison d'études du Monastère de la Réparation (Capucins), Pte. aux Trembles.	1923	4	-	4	19	-	19	
Séminaire des Missions Étrangères, Pont Viau.	1921	6	-	6	23	-	23	
Noviciat des Pères Capucins, Pont Viau.	1902	2	-	2	10	-	10	
Studium Franc. de Philosophie, Quebec.	1902	4	-	4	14	-	14	
Noviciat des PP. Bénédictins, St. Benoit du Lac.	1926	1	-	1	1	-	1	
Totals, Quebec	-	1,277	15	1,292	13,761	344	14,105	
Huron College, London, Ont	1863	5	-	5	28	-	28	Western.
Knox College, Toronto, Ont.[1]	1843	3	-	3	33	-	33	Toronto.
Ontario Agricultural College, Guelph, Ont.	1874	92	13	105	1,071	918	1,989	Toronto.
Ontario College of Art, Toronto, Ont.	1912	9	6	15	250	532	782	Toronto.
Ontario College of Pharmacy, Toronto, Ont.	1871	6	16	22	245	10	255	Toronto.
Ontario Veterinary College, Guelph, Ont.	1862	12	-	12	142	-	142	Toronto.
Osgoode Hall Law School, Toronto, Ont.	1873	7	-	7	351	14	365	
Royal Military College of Canada, Kingston, Ont.	1875	40	-	40	200	-	200	
St. Jerome's College, Kitchener, Ont.	1864	12	-	12	191	-	191	
St. Michael's College, Toronto, Ont.	1852	43	-	43	738	148	886	Toronto (Fed.).
Toronto Bible College, Toronto, Ont.	1894	7	-	7	98	308	406	
Emmanuel College, Toronto, Ont.	-	15	-	15	91	22	113	Victoria.
Wycliffe College, Toronto, Ont.	1879	14	-	14	81	-	81	Toronto.
Waterloo College, Waterloo, Ont.	1924	15	-	15	72	-	72	Western.
St. Augustine's Seminary of Toronto, Ont.	-	12	-	12	188	-	188	

For footnotes see end of table, p. 987.

17.—Professional and Affiliated Colleges of Canada: Number and Sex of Teaching Staff and Students, by Individual Institutions, 1918-29—concluded.

Name and Address.	Date of Foundation.	Number of Teaching Staff.			Number of Students.			Affiliation.
		M.	F.	Total.	M.	F.	Total.	
Assumption College, Sandwich, Ont..	–	20	–	20	71	–	71	Western.
Ursuline College of Arts, London, Ont.	–	9	9	18	30	71	101	Western.
Alma College, St. Thomas, Ont......	–	2	20	22	8	291	299	Western.
Evangelical Lutheran Seminary, Waterloo, Ont.	–	3	–	3	8	–	8	Western.
Collège du Sacré-Cœur, Sudbury, Ont [2]	–	18	–	18	150	–	150	Laval.
Studentat des Redemptoristes, Ottawa.[2]	–	6	–	6	29	–	29	
Mount Carmel College, Niagara Falls.[2]	–	8	–	8	145	–	145	
Totals, Ontario..............	–	326	64	390	3,896	2,314	6,210	
St. John's College, Winnipeg[2]........	–	22	1	23	293	–	293	Manitoba.
Brandon College, Manitoba..........	1899	12	9	21	142	190	332	McMaster.
Manitoba College, Winnipeg, Man....	1871	7	–	7	12	7	19	Manitoba.
Manitoba Law School, Winnipeg, Man	1914	10	–	10	52	2	54	Manitoba.
Wesley College, Winnipeg, Man.......	1877	19	5	24	229	220	449	Manitoba.
St. Boniface College, Winnipeg, Man.	–	14	–	14	317	–	317	Manitoba.
Totals, Manitoba............	–	62	14	76	752	419	1,171	
Regina College, Regina, Sask........	1911	6	9	15	320	541	861	Saskatchewan.
St. Andrew's College, Saskatoon, Sask.	1912	4	–	4	38	1	39	Saskatchewan.
St. Chad's College, Regina, Sask....	1907	6	–	6	16	–	16	Saskatchewan.
Emmanuel College, Saskatoon, Sask.	–	6	–	6	46	–	46	Saskatchewan.
Lutheran College and Seminary, Saskatoon, Sask.	–	4	1	5	33	10	43	Saskatchewan.
St. Peter's College, Muenster, Sask..	–	13	–	13	77	–	77	Saskatchewan.
Campion College, Regina, Sask......	–	17	–	17	223	–	223	Saskatchewan.
Totals, Saskatchewan.......	–	56	10	66	753	552	1,305	
Concordia College, Edmonton, Alta.	–	6	–	6	60	12	72	
Edmonton Jesuit College, Alta.......	1913	17	–	17	204	–	204	Laval.
St. Stephen's College, Edmonton, Alta.	1910	7	–	7	26	–	26	Alberta.
Totals, Alberta..............	–	30	–	30	290	12	302	
Anglican Theological College, Vancouver, B.C.	–	4	1	5	30	1	31	British Columbia.
Union College, Vancouver, B.C......	–	5	–	5	27	3	30	British Columbia.
Victoria College, Victoria, B.C.......	–	7	3	10	118	115	233	British Columbia.
Totals, British Columbia....	–	16	4	20	175	119	294	
Grand Totals...............	–	**1,872**	**144**	**2,016**	**20,805**	**4,332**	**25,137**	

General Note.—Data for colleges are incomplete, as reports were not received from a few colleges for 1928–29. Figures in this report cover only the above-named colleges.

[1] Data for preceding year.

[2] Staff and Enrolment not included in provincial total. Provincial report complete before figures received. Collège du Sacré-Cœur became affiliated to the University of Ottawa in 1930.

Section 2.—Scientific and Industrial Research in Canada.

Prior to 1870 the basis of research in Canada was observation and record rather than experiment. Fifty years ago, laboratories, except elementary ones of scant accommodation, were non-existent. The courses in science in the universities did not, before 1878, involve any practical work beyond extremely simple demonstrations. The industries did not concern themselves with scientific investigation, and research was not regarded as an essential feature of the work of the Government Departments, except possibly in the Geological Survey.

Scientific research in Canada began in the '80's with the institution in the universities of courses in experimental and practical science. Many of the investigators of Canadian origin who have distinguished themselves in the field of science within the last 30 years owe their incentive toward research to the outlook developed by these courses.

Since 1890, Canadian universities have steadily increased their equipment for scientific teaching and research. While many of the teachers have had little time for research or for advanced courses, scientific investigators in Canadian universities have made valuable contributions to the literature of the sciences, and many of them have achieved high distinction.

Scientific societies, such as the Royal Canadian Institute, founded in 1849, and the Royal Society of Canada, founded in 1881, have also promoted research through the publication of papers giving the results of researches in the various departments of science and through the distinction conferred by membership in such societies.

Various departments of the Dominion and Provincial Governments have maintained scientific laboratories. Some of these have been concerned merely with routine examination or analysis, but in many cases research was undertaken. The research activities of government departments have, however, been inadequate to meet the needs of the situation. Less than 9 years ago, it was estimated that the amount expended annually by government laboratories for investigations of all kinds was less than $325,000, of which less than $100,000 was actually expended for research in government laboratories.

Twenty years ago the value of research was not appreciated by Canadian industries. A number of firms had routine testing or assay laboratories, but until 1905 there was none which employed research for the improvement of its manufacturing processes or of its products. The example of foreign firms has to some extent altered public opinion in Canada on this question, but the number of Canadian firms which apply research to their industrial problems is still very small. In 1917 the Research Council of Canada issued a questionnaire to the industries. Replies received from 2,400 of the leading firms in Canada showed that only 37 had laboratories for research; 83 employed as many investigators and 276 assistants, but the great majority of these were engaged only in routine examinations. Apart from salaries, the total amount expended in 1916 for research by all firms listed did not exceed $135,000.

With the growth of Canadian wealth the scientific equipment of the leading Canadian universities has been greatly increased, and scientific researches are now being prosecuted on a considerable scale as a result of the research scholarships granted by the National Research Council of Canada, or endowed, by various wealthy benefactors, in the leading universities of the country. An especially notable achievement is the discovery of insulin, a preparation which indefinitely prolongs the lives of those suffering from diabetes, by Dr. F. G. Banting, Dr. J. B. Collip and Mr. C. H. Best, working under the supervision of Prof. J. J. R. Macleod, Professor of Physiology in the University of Toronto. The Nobel prize in medicine for 1923 was awarded to Dr. Banting and Dr. McLeod for their discovery, and in the same year Parliament voted to Dr. Banting a life annuity of $7,500, to enable him to devote himself entirely to medical research.

The importance of scientific and industrial research has been recognized in recent years by the creation of the Honorary Advisory Council for Scientific and Industrial Research, now known as the National Research Council and by the establishment of provincial research organizations, notably the Research Council of Alberta and the Ontario Research Foundation. Provincial research organizations are also being formed in Saskatchewan, Manitoba and Nova Scotia.

Subsection 1.—The National Research Council.[1]

Established in December, 1916, by the Dominion Government, the Honorary Advisory Council for Scientific and Industrial Research, as it was then called, found itself greatly handicapped during its early years by a lack of laboratory facilities. The only research laboratories of any consequence existing in Canada at that time were those of the universities, where many valuable researches were even then under way, but where the work was often seriously limited by lack of funds. This deficiency the National Research Council undertook to remedy, in particularly urgent cases, by the provision of special equipment or much-needed technical assistance. The serious shortage of scientifically trained men which the country was then experiencing led to the establishment of post-graduate research scholarships in the universities. Advisory committees were also created in some of the more important branches of science and technology, in order that the Council might have the benefit of the advice of specialists in extending its various activities.

Since 1924 the work of the Council has been largely expanded through the establishment of a number of research committees to undertake investigations on major problems, some of them of national importance. Arrangements were at first made for co-operative researches in the laboratories of Dominion and Provincial Government departments and the universities. More recently provision has been made for research work by the Council's own staff in laboratories of a more or less temporary character, and construction has been started of National Research Laboratories in which the Council will, it is hoped, be able to carry out effectively the various responsibilities assigned to it by the Research Council Act.

Organization and Staff.—The Council itself consists of 15 members, each of whom, with the exception of the president, is appointed for three years and serves entirely without remuneration. Its membership includes specialists in science, executives in the universities and the industries, and representatives of government departments that are carrying on scientific or industrial research.

The chief executive officer of the Council is the President. Responsible directly to him are the Secretary-Treasurer, in charge of the administrative staff, and the directors of the various professional divisions. The divisions already established by the Council are those of Chemistry, Physics, Biology, and Research Information. The first three of these are actively engaged in laboratory researches. The Division of Research Information is responsible for the Council's research library, its publications including the recently established Canadian Journal of Research, a bibliographic and abstracting service, economic studies, and technical inquiries. Provision has been made for the organization of other divisions, as required.

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[1] Prepared by F. E. Lathe, Director of Research Information, National Research Council Ottawa. A list of publications of the National Research Council will be found at p. 1096.

Buildings and Equipment.—Less than five years ago the Government authorized the Council to establish its first small laboratory, which was required for the work of one of the Council's research committees. Early in 1930 investigations were begun in the John Street Laboratories, Ottawa, where provision was made, in the old mill buildings purchased by the Government, for research in chemistry, physics and aeronautics.

For chemical and physical investigations some 20 research units were fitted up. In addition, it was decided that in view of the rapid development of aviation in Canada immediate provision should be made for aeronautical research on an adequate scale. The only wind tunnel previously existing in Canada was a small one at the University of Toronto. Further, in spite of the fact that hydroaeroplanes are of particular importance in Canada owing to its great and widely distributed water areas, there had been no water channel to provide for research on this type of machine. Two of the old mill buildings have been found well adapted to such work and have now been remodelled to house a well equipped wind tunnel, with a nine-foot nozzle and provision for winds up to 150 miles per hour, and a water channel about 410 feet long with equipment for towing at carefully controlled speeds. A large dynamometer for testing aeroplane engines is also being installed.

The Council's major researches in chemistry, physics, biology and related sciences will be carried out in the National Research Laboratories, a building now nearing completion on a ten-acre site near the confluence of the Ottawa and Rideau rivers. These laboratories, which are being erected at a cost of approximately $3,000,000 exclusive of the necessary scientific apparatus and equipment, consist of a four-storey building 418 ft. long and 176 ft. wide. There are two large interior courts, one on each side of a central library and assembly room, so that the whole building is amply provided with light. The building is of steel frame construction faced with sandstone, and is as nearly fireproof as possible.

On the first floor, space is being reserved for offices for the Council's staff. Here also will be the main assembly room, designed both for general meetings of the staff and for scientific and technical conventions. Immediately above and at the rear of the assembly room will be the research library, with accommodation for 300,000 volumes. Beneath each interior court will be a large exhibition hall, where it is intended to set up exhibits showing the progress of scientific and industrial research.

The greater part of the building will be divided into unit research laboratories of convenient size, two or three of which are in some cases thrown into one for special purposes. The walls between the individual units have been made easily removable.

At the rear of the building are the engineering laboratories, carried through both the basement and the first floor to secure space for large testing machines and other similar equipment. At one end, and also carried through two stories, a high-tension electrical laboratory has been provided, where researches will be carried on at voltages up to about 750,000. This has been decided upon in view of the enormous hydro-electric development in Canada and the corresponding need for research in electrical transmission and related problems.

Laboratory Investigations.—Pending the completion of the main building of the National Research Laboratories the existing laboratories are being utilized to the fullest possible extent. The following is a partial list of the problems upon which researches are under way or have been recently completed:—

Heat insulation for houses, to determine the heat conductivity of various insulating materials.

Aerial photography, with the object of eliminating electrical effects which now spoil a large proportion of the films exposed.

The rapid determination of moisture in grain by electrical methods.

The development of a method of grading grain which will more clearly distinguish between the various grades.

The study of sound waves so rapid as to be inaudible to the human ear.

The chemical effect of extremely short electro-magnetic waves.

Voltmeter design.

The standardization of radium.

The utilization of Canadian deposits of dolomitic magnesite.

Methods of testing raw wool.

Research in laundry problems.

Leather research, especially problems in tanning.

The chemical nature of rubber, the treatment of its several constituents and the development of rubber accelerators.

The conversion of natural gas into intermediate products which can be used in present commercial processes, the production of carbon black and hydrogen.

The utilization of Canadian asbestos.

Improvements in the quality of fish oils, and their conversion into more valuable products.

The utilization of waste apples.

The clarification of honey and the development of new honey products.

Researches on maple sugar.

The utilization of loganberry residues.

The synthesis of resins.

Biological researches have not yet been carried out at Ottawa by the Council's staff, owing to the very limited laboratory accommodation, but for several years work has been under way in Edmonton, in co-operation with the University of Alberta. The activities of the staff there have in the main been confined to problems of the grain industry.

Associate Committees.—Two classes of associate committees have been established by the National Research Council. The main function of the first class is to advise the Council on scientific questions, and of the second, to direct or undertake research work on some major problem.

Advisory committees have been established on chemistry, physics, botany, mining and metallurgy, nitrogen fixation, electrical measuring instruments, and engineering standards. These committees report on problems referred to them by the Council, make recommendations as to researches which might be undertaken, issue reports, and keep closely in touch with the advances being made in their respective branches of science and technology.

The associate committees whose function it is to undertake research usually have in their membership representatives from other organizations prosecuting research or interested in the special problems which the committee was appointed to study. In this way co-operative researches are carried out with other government departments, both Dominion and Provincial, the universities, and various other organizations.

Research committees of the kind described have been established on animal diseases, biophysics, cereal rust, coal classification, field-crop diseases, grain research, heating and insulation, honey, laundry research, leather, magnesite, natural gas, New Brunswick forest problems, oceanography, smelter smoke, tuberculosis, weed control and wool growing and manufacture. This partial list of subjects gives some idea of the extent and character of the external work of the Council.

Assisted Researches.—Assisted researches are those carried out in other laboratories than those of the National Research Council, and to which the Council has made a financial contribution for the purchase of equipment not ordinarily found in scientific laboratories, or for the provision of technical assistance in carrying out the experiments. In no case does the grantee receive any compensation for his own services. By this plan important contributions to science and industry have been made at a minimum of expense to the Government.

The following may be taken as fairly typical of the more than 100 investigations on this plan now under way in the laboratories of 10 Canadian universities, and in 15 government and industrial laboratories:—

The fermentation of honey.
Mastitis in cows.
Relation of bacteria to feed flavours in milk.
Winter hardiness in crop plants.
Action of bacteria and enzymes on carbohydrates.
Factors governing the milling and baking quality of wheat.
The lateral support of steel columns and struts.
The welding of steel structures.
The effect of low temperature on steel castings.
Pressure variations in the cylinders of internal combustion engines.
The action of alkali waters on concrete.
The chemical effect of high-speed cathode rays.
The effects of electric and magnetic fields.
Investigations of fundamental gas laws.
Researches in the field of low temperatures.
The active principle of yeast.
The floatability of pulpwood.

Training of Research Workers.—To give graduates of Canadian universities further specialized training in methods of scientific and industrial research, the National Research Council has established a series of post-graduate scholarships. These scholarships are of several classes, and awards are made according to the academic standing of the applicants and the extent of their experience in post-graduate research. The fact that two or three times as many applications are received as there are awards to be granted permits the Council to confine the awards to applicants with outstanding qualifications.

Bursaries, each of an annual value of $750,[1] are the lowest awards and usually go to men who have done at least one year's post-graduate research, a few being reserved for specially deserving men in the graduating classes. Studentships, of $1,000 each,[1] usually go to those who have held bursaries for one year and have done highly satisfactory work. Fellowships, of $1,200 each,[1] call for two or three years of post-graduate research and a demonstrated capacity for independent research.

In addition to the above scholarships, which are tenable in Canada, the Council grants a few travelling fellowships of $1,500 each for study abroad. These are awarded only to candidates who already possess the Ph.D. degree or its equivalent, and who wish to pursue advanced study under British or foreign specialists. Holders of these scholarships must agree to return to Canada at the end of the period covered by the award. A Ramsay Memorial fellowship of $1,750 is available annually to an outstanding man who holds the Ph.D. degree and wishes to continue chemical research abroad.

These scholarships involve a total annual expenditure of about $50,000. It is not too much to say that they have been a very important factor in building up post-graduate schools in Canadian universities and in providing the trained man-power necessary for the development of Canadian natural resources and manufacturing industries. It is gratifying to note that nearly all of the 284 persons who had completed their post-graduate training under this system by Mar. 31, 1930, are now engaged in scientific or technical work in Canada. A large number of them have made important contributions to science.

Subsection 2.—The Ontario Research Foundation.

The Ontario Research Foundation was established by Acts of the Provincial Legislature passed in 1928 and 1929 (18 Geo. 5, c. 57, and 19 Geo. 5, c. 86). The objects of the Foundation are as follows:—

(a) The improvement and development of manufacturing and other industries by the introduction of advanced methods and processes.

(b) The discovery and better development of the natural resources of the province and the discovery and utilization of the by-products of any processes in treating or otherwise dealing with the mineral, timber and other resources of the province.

(c) The development and improvement of methods in the agricultural industry and the betterment, welfare and progress of farm life.

(d) Scientific research and investigation for the mitigation and abolition of disease in animal or vegetable life and the destruction of insect or parasitic pests.

(e) Generally, the carrying out, with the approval or under the direction of the Lieutenant-Governor in Council, of any other research work or investigation which may be deemed expedient.

The scheme provides that half of the cost of the Foundation shall be borne by the Legislature and the remaining half by subscriptions to be received from industries and private subscribers. An Advisory Council of 25 persons representing the scientific, agricultural and industrial interests of the province was established by Order in Council of May 14, 1929.

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[1] For the year 1931-1932 the bursaries, studentships and fellowships are being reduced to $600, $750 and $1,000 respectively.

The present premises of the Ontario Research Foundation are 47 Queen's Park, Toronto, with additional quarters in a new building fronting on St. Joseph Street.

At the commencement of 1931 there were eighteen full-time research men on the staff as well as the necessary administrative and non-technical workers. Industrial fellowships are supported by the following organizations: Canada Packers' Ltd., Canadian Automobile Manufacturers' Association, Consumers' Gas Company, Canadian Woollen Manufacturers' Association, Ontario Metal Industries Research Association and a group of Ontario tanners. Officers of the Department of Agriculture and the Department of Mines have co-operated with the staff of the Foundation and financial support has been given to investigations of mutual interest. The various laboratories have been suitably equipped and researches in the following fields are in progress: textiles, biochemistry, bacteriology, animal pathology, leather, physical and chemical metallurgy, ceramics, fuel, gas, chemistry, agricultural economics, as well as geophysical prospecting and soil surveys in certain localities in the province.

Subsection 3.—The Advisory Council of Scientific and Industrial Research of Alberta.

The Scientific and Industrial Research Council of Alberta was formed by Order in Council on Jan. 6, 1921. It originally consisted of five members, with the Provincial Secretary as chairman, and was appointed " to supervise and direct research work, to engage specialists to perform such work and to define the duties of each". According to its report for 1928, the Premier of the province was the then chairman, and the members included the Minister of Public Works, the President of the University of Alberta, and several professors of the same institution. Work was carried on during the year on fuels and road materials, as well as on geological and soil surveys, and on the chemical utilization of natural gas.

Subsection 4.—The Saskatchewan Research Council Act, 1930.

The Research Council Act, 1930 (Sask. c. 88, 1929-30) provides for the constitution of a " Research Council of Saskatchewan " for the purpose of promoting the application of scientific methods to industry, and the development of natural resources within the province. It will consist of not more than ten members designated by the Government, and will include two members of the Executive Council with the President of the University of Saskatchewan as Director of Research.

Subsection 5.—The Royal Society of Canada.

An account of the origin, history and functions of the Royal Society of Canada, contributed by Prof. J. Playfair McMurrich, Past President of the Royal Society of Canada, appeared at p. 884 of the 1924 Year Book.

Subsection 6.—The Royal Canadian Institute.

An Account of the Royal Canadian Institute, contributed by Prof. J. Play fair McMurrich, appeared at pp. 885-6 of the 1924 Year Book.

Section 3.—Public Libraries in Canada.

Under the above heading, a short article appeared on pp. 168-9 of the 1921 edition of the Year Book. Because of the pressure upon the space of the Year Book it is not repeated here. Statistics of Canadian libraries are given at pp. 178-221 of the "Annual Survey of Education in Canada, 1928", published by the Dominion Bureau of Statistics. For Canadian library legislation, see pp. 165-177 of the same report.

Section 4.—The Development of the Fine Arts in Canada.[1]

Numerous attempts have been made from time to time, in the form of public addresses and published articles and books, to show that there is in Canada so very indefinite and uncertain a thing as national art. As to the fine art of painting, for instance, the difficulty of its classification as national or Canadian lies in the fact that its means of expression consists usually of pigment placed on canvas. Because pigment is a universal medium, and has been used in most countries for many hundreds of years, the critics fail who attempt to explain just how pigment placed on canvas by individuals who call themselves Canadians is different in a national way from similar work in other countries, especially in contiguous countries. Painters who live and work in Toronto or Winnipeg or Montreal are not likely to be very different in the general result from painters who live and work in Boston, Cleveland, Detroit, Minneapolis or Seattle. To make the lack of difference more obvious one might take the instance of a painter working in Windsor and another in Detroit, the one claiming to produce Canadian national art and the other American national art, with only the river St. Clair flowing between them. The farmer who grows wheat in southern Saskatchewan in a field that actually touches his neighbour's in Montana could scarcely find the difference, especially the national difference, between his wheat and his neighbour's.

Since Canada is a British Dominion with more than three thousand miles of frontier touching the United States of America, it is difficult to dissociate her art from British tradition and American influence. At the time she was wrested from the French, in 1759, there was no native art of any importance, but the French missionaries had introduced painting of a religious character for the purpose of Christianizing the natives, with the result that in some of the early churches and monasteries, conspicuously in Laval in the city of Quebec, there were paintings of great artistic and intrinsic value. The churches also brought to life a native art in the shape of wood carvings for altars and interior decoration, and while some claim to artistic value can be made for these carvings, they should properly be placed among the handicrafts.

Painting, therefore, did not enter into the lives of the people as a fine art until at least a hundred years later. Feeble efforts had been made to encourage pictorial art, but nothing of a permanent character resulted until late in the nineteenth century.

Sources of Art and Pioneers of Painting in Canada.—In pursuit of the sources of art in Canada we turn naturally to the redman, from him to the early trader and the missionary, and from these again to the first settlers. But while the priest and the settler brought some works of art with them, mostly for religious purposes, and while there are records of a few native painters,[1] mostly portraitists, the results have had but little influence on the art of the country. Into Old Canada were brought some good examples of early European painting, especially the pictures now assembled in the imposing collection at Laval University, where there are examples of Italian, Flemish, Dutch, French and English schools and of individual masters, including Signorelli, Salvatore Rosa, Simone Memmi, Van Loo, Guido Reni, Poussin, Gainsborough, Reynolds, Lawrence, Vandyke, Correggio, Rubens, Cuyp, Fragonard, Velasquez, and Carlo Dolci. Most of these paintings were sent to Canada during the French Revolution and were collected by Hon. Joseph Legaré, who was one of the early Canadian painters. Others were bought for Mr. Legaré in Europe. But while they are interesting in themselves and valuable, they should not be taken into our present consideration.

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[1] Contributed by Newton MacTavish, M.A. D.Litt., author of *The Fine Arts in Canada.*

Therefore we must come down to the beginning of the nineteenth century before we can find the beginnings of art in Canada. And in doing so we are confronted with a significant set of coincidences. We find that in the years 1806, 1810 and 1812 the stars in their courses must have favoured the future of art in this new country. For in 1806 George Theodore Berthon, an artist who eighty years later left in Canada many excellent examples of art, was born in Vienne, France. Four years later, in 1810, there was born in England Daniel Fowler, whose work is among the best of the artists in Canada who have laid down their brushes forever. In the same year, as we have recorded, Paul Kane came into the world. Two years later, in the old town of Königsberg, Prussia, O. R. Jacobi was born, and in the same year Cornelius Krieghoff first saw the light in the quaint city of Rotterdam. Both came to Canada later on, and while Krieghoff has been called the Hogarth of Canada (his studies of rural life and types in Lower Canada meriting that distinction), Jacobi, perhaps rightly, is regarded as the most conspicuous of our early painters. It is well to record here also that two of the first artists from abroad to leave an impression in Canada were Hoppner Meyer and E. C. Bull. Meyer was a son of the London engraver of the same name. Some of his water-colour portraits are still to be seen in Toronto, and are examples of a refined and elevated taste. Bull was accounted a splendid pencil draughtsman. He taught drawing at Upper Canada College and the Mechanics Institute.

George Theodore Berthon received in France his training as a portrait painter, studying under his father and also under David. As a young man he went to England, but on the advice of a friend then living in Canada he came to this country and settled in Toronto as a professional portrait painter. His first commission was a portrait of Chief Justice Robinson, and thereafter, for the Law Society, he painted portraits of successive Chief Justices. These fine big canvases now hang in Osgoode Hall, and, although they are appreciated only by the few, they compose nevertheless a notable collection, worthy of being placed where they could command more attention from the public. They are Victorian in style and feeling, and they have a somewhat literal or photographic quality. But they are highly convincing and convey an authentic impression of personality. They are sound in construction and dignified in effect, and they must have been well executed technically in order to have retained their present freshness and clarity of colour. It is fortunate that an artist so sound was available to record for us with apparent faithfulness the appearance of so many of our public men of the Confederation and pre-Confederation periods. Besides portraits Berthon painted a few landscapes, but it is on portraiture alone that his reputation rests. He was elected a member of the Royal Canadian Academy in 1880, and he died in Toronto in 1892.

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[1] De Beaucourt, Louis Delongpré, Antoine Plamondon, Joseph Legaré, T. Hamel, Gilbert Stuart Newton, and William Valentine.

Naturally one wonders why an artist would come to a country where there was as yet almost no artistic development. We acknowledge the pioneer spirit and we have before us, even in our own country, the instance of Paul Kane. But Kane went into remote parts with no intention of remaining. Nor did he remain. Then, again, there is the instance of Gaugin, the French painter who went to the island of Tahiti, lived amongst the coloured people of that land, painted them and died there.

Scarcely can we believe that Jacobi came to Canada with much thought of remaining. There is a record that he came for the single purpose of painting Shawinigan falls, a beautiful bit of natural scenery near Three Rivers, not many miles from the city of Montreal. The fact that he remained and passeg his last days here is a fine tribute to the attractiveness of the country. For he had been a distinguished painter in his own land, where, after a course of training at Düsseldorf, he had received commissions from the Duke of Westphalia and the Emperor of Russia. Besides these attentions, the Duke of Nassau had appointed him court painter at Wiesbaden, where he had remained for twenty years.

Jacobi was about fifty years of age when he came to Canada in or close to the year 1860. He was then at the height of his power. His paintings of this period and even of the period embracing the next ten years, display a good sense of colour values, though they may be found lacking in originality and variety of design. Some of his paintings are notable for their delightful tones of grey, but most of them are emphatic exponents of the merits of red and orange.

In Jacobi Shawinigan falls must have aroused genuine enthusiasm, for the painting of waterfalls became with him a veritable passion. And notwithstanding the many opportunities to be found in Ontario and Quebec for catering to this passion, he fell into the dangerous practice of repeating. One of his favourite compositions was an orange sunset, with some indication of trees on each side and a waterfall down the middle. This somewhat sentimental bit of landscape he repeated many times, with, of course, enough variation to show that it was not the product of the stencil. He was an idealist, and for that very reason there is but little "Canadian" feeling in his work. His landscapes, with some exceptions as far as type goes, might as well be called Prussian as Canadian. He loved to render his impression of a landscape bathed in the enrapturing glow of the setting sun, and yet no one can say of many of these impressions that this is that or that is this.

Jacobi had been in Canada about a decade when, in 1873, the Ontario Society of Artists was organized. He was among the first exhibitors. He was also one of the first teachers in the school of art which began about that time and which is known now as the Ontario College of Art. But his teaching was of short duration and of but little consequence. Mr. T. Mower Martin, who is the present *doyen* of painters in Canada, was the principal. It appears that Jacobi did not relish the fact of being exceeded in academic honours by one whom he regarded as his inferior in distinction and even in artistic accomplishments. Mr. L. R. O'Brien, who had turned from architecture to painting and who put an active mind to all things affecting art in Toronto, suggested that Jacobi be invited to join the school as teacher of water-colour drawing and that the teachers be distinguished as professors.

Mollified by the offer of these honours Jacobi accepted them and became forthwith one of the professors. But the honours were not to last long. For Jacobi, however grave may have been his fault of repetition, seems to have been a better painter than a teacher. He had no system, but relied solely on demonstration. The result was about the same as if a juggler were to display his greatest skill and then command his pupil to do likewise. Jacobi would surround himself with the class, which was in number about twelve or fifteen, and, taking a water-colour pad on his knee, would proceed to paint. He used the old-fashioned dry water-colours, and the brushes were composed of stiff, stubby bristles which he cleaned by drawing them between his teeth and lips.

"Now", he would say, retaining his Teutonic accent, "ve vill make a nize leetle vater-colour. Ve vill put a round spot of red in the centre, so. Zat is ze sun. Now ve vill take some yellow, so, and some purple, so, and before you know it, ve haf a sky. Then ve put some trees on this side and some odders on the odder side, so. And then ve run a leetle vaterfall down the meedle, so; and it is finished. Now you haf seen me make a vater-colour. It is very simple. Make one yourself".

Each pupil, encouraged by the apparent simplicity of the work, would begin immediately, the idea being to paint with the same facility. But the results in most instances were at once disastrous and in the end highly discouraging. Mostly for that reason Jacobi did not last long as a "professor", but he accepted from time to time a few private pupils. Among these was the late Henry Sandham, R.C.A., who in the 'nineties had some reputation in New York as an illustrator. It cannot be shown, however, with all his good work and his indifferent teaching, that Jacobi had any effect on the art of the country. His paintings, pleasing as they may be in colour and tone, and interesting as they always are in method, will be valuable more for their association than for their artistic superiority. He never was in actual sympathy with Canadian scenery, never so much as with the scenery of his imagination. Nor can it be shown that he ever advanced in any Canadian spirit. During his latest years his work deterioriated under defective eyesight. He applied spectacles in course of time—two sets of lenses and, finally, three sets. Still he wondered why his admirers turned to his earlier productions in preference to his later. He long endured these conditions, living very simply in the city of Toronto, and his pictures sold at about one-tenth the price that they could fetch at public auction in the same city fifty years later. Near the end of his career he went to the Western States, where he died in 1901.

Almost contemporaneous with the coming of Jacobi to Canada was the coming of Daniel Fowler. What could have induced Fowler to come? He was an Englishman and had studied law first and then art. He had passed a year in study on the Continent and afterwards had opened a studio in London. But, his health declining, he sought rejuvenation in the wilds of Canada. He settled on Amherst island near Kingston. For fourteen years he lived there, but the desire to paint must have lain dormant, for that period of his life was barren so far as art is concerned. Then he visited London. There the former desire to paint was revived. He returned to his island home in Canada, and for many years thereafter he was a painter of large and varied output. He gave most of his attention to landscape and still-life. His colouring at times is brilliant and there is in his work more breadth than in the work of most of his contemporaries. Examples of it may be seen in the National Gallery of Canada, at Ottawa.

Of Krieghoff there are scarcely any records apart from his work. One is safe in assuming, notwithstanding, that he came to Canada in the course of his wanderings from one place to another and settled in the country, near Montreal. He must have had a good rearing, for he was an accomplished linguist, a musician of some attainments, and he was as well a student of botany. It is recorded also that he received a training in art at Rotterdam. Even so, from his native land he was attracted to America. But he came more as an itinerant musician than as a painter. He possessed an adventurous disposition, and at the time of the Seminole trouble in Florida he joined the United States forces and attained the rank of sergeant. Later he drifted northwards into Canada, and remained for some time in Montreal. At length he found his way to the city of Quebec, and apparently it was the friendships formed there that induced him to remain. Then began the serious portion of his career as a painter. He came to the conclusion that he was not an efficient draughtsman, and his work shows that the conclusion was based on reason. Convinced of this defect, he went to Paris where he studied for two years, after which he returned to Quebec. Without doubt he was benefited by the schooling, but it cannot be said that he ever attained much skill in drawing. Nevertheless, he was a fair draughtsman and he possessed great adaptability. He gave much attention to landscape painting, but he used the human figure and various animals as accessories and oftentimes as the chief motive.

Krieghoff enjoyed considerable patronage in Quebec, where his paintings were acquired by most of the wealthy residents of the city. Brilliant in tone as were many of his landscapes, particularly the scenes of autumn, they were not too brilliant for the taste of the art fanciers of that time and place, and many of the officers stationed at Quebec took with them on their return to England specimens of Canadian scenery as depicted by this artist; many of these were painted in one day in the open. There were also Indian and French Canadian types, subjects that appealed greatly to Krieghoff. And, while the artist was prone to use lavishly the primary colours, some of his paintings, judged even as the productions of to-day, are really charming in tone, composition and method. Most of them, on the other hand, would be regarded now as being too raw in colour and crude in execution. Many of them have the appearance of highly-coloured lithographs. The figures might be regarded as the work of a caricaturist and humourist. We find in his work touches that suggest Hogarth and conceits that might well come from Cruikshank. The French Canadian and the Indian were his especial subjects. Therefore the wigwam, the canoe and the mansard roof are important accessories to his compositions. The breaking up of a dance at a French Canadian farmstead and running the toll-gate were subjects that appealed to his sense of humour, and the results of his efforts to realize these events on canvas are amusing, even if exaggerated. His weakness for exaggeration ran to such lengths as that of having a rheumy old man running on crutches after a horse that has passed, galloping, through the toll-gate, or that of sleighs upsetting, dogs fighting, horses bolting and persons looking on from upstairs windows during the leave-taking after the dance. The ridiculous aspects of these things are amusing, even if some critics might pronounce them inartistic.

Krieghoff was in most instances a close observer, and his pictures, like Kane's, are valuable as giving details of habits, customs and many things that compose the everyday life of a people. In these respects the works of Kane and Krieghoff differ greatly from the works of Fowler and Jacobi. For there is little that is topographical in Jacobi's, nothing that is historical in Fowler's. These two strove to produce art, and while they came from foreign lands, it is to them that we look for the first elements of art in a country that even yet gives thought mostly to the common amenities of life.

Let us remark that Kane, Krieghoff, Fowler and Jacobi were born at a time when, even in the United States, art had not begun to attain a foothold. In Canada population was sparse, conditions crude, and only the wealthy or official class had much opportunity for practising the principles of refinement. We have to imagine Krieghoff and Fowler coming into a country where there were few, if any, art societies, no art schools, scarcely even an artist; where the people were compelled, after settling questions of politics and religion, to think about the prime necessaries of life and to ignore the refining influences of painting and the high grades of literature.

Fowler and Jacobi we must accept as real artists. For that reason it is easy to assume that they had no intention of remaining in the country. Still they did remain, and they passed most of their latter days here. At the time of Fowler's coming (1843) the country was not in the mood to encourage art; for the people, apart from earning a livelihood, were mostly concerned with affairs of church and state. These were the days closely following the time of the Family Compact and the Château clique—the days of John Strachan, William Lyon Mackenzie, and Louis Joseph Papineau. Toronto, which is now regarded as the art centre of the Dominion, was a small village skirting a marsh. Montreal, which has ranked as the third city on the continent for imposing private collections of paintings, was then nothing more than an important place of trade. Ottawa, which now boasts of the National Gallery, was a small frontier settlement known as Bytown. Colonization in Upper Canada had scarcely begun. The people, thrust between traders and soldiers, had no room for the fine arts, even if they had the disposition to welcome them.

We are considering, of course, a period prior to the time of Inness, Homer, and Ranger in the United States and prior also to what is called in England the pre-Raphaelite Movement—the time made notable by Carlyle and Watts, Tennyson and Burne-Jones, Wordsworth and Rossetti, Browning and Leighton, William Morris and Holman Hunt. In France neither Millet nor Manet, each of whom has made a profound impression on the art of the world, had as yet tasted fame.

The Rise of Art in Canada up to Confederation.—The four painters, however, whom we have discovered as the pioneers of art in Canada, apart from Kane, did not actually come upon the scene as artists until about the middle of the century. That was not a propitious time for the advancement of art. Still, we find that in 1834 the Artists' Society had conducted the first art exhibition on record in Toronto. This exhibition had been held in the old Parliament Building, with Sir John Colborne, the Lieutenant-Governor of Upper Canada, as the chief patron. Thirteen years later the Toronto Society of Arts had been organized. This society had held three exhibitions, and among the exhibitors had been Krieghoff, G. T. Berthon, and Paul Kane. Later still, in 1867, the very year of Confederation, the Society of Canadian Artists, which had but a brief career, was organized in Montreal, with John Bell-Smith, father of F. M. Bell-Smith, as its president.

But the country itself was progressing. The rebellion of '37 had passed, and responsible government, the cause of much contention, was at length established. Toronto had become a place of some consequence, boasting the seat of government, a university, and, as citizens, a number of distinguished personages. Montreal was climbing Beaver Hall Hill, and such places as Hamilton, Niagara and Kingston could lay claim to a showing of refinement.

But the art of painting was a thing unhonoured and unsung. If it were nurtured at all, it was in the bosoms of strange individuals who came from abroad and settled in Canada, perhaps in remote spots, with hopes of establishing, as Wordsworth established at Rydal, a centre of culture and quiet enjoyment. For example, take the case of the painter William Cresswell. He came to Canada a decade or two later and selected for his future home a beautiful site in Huron county, a few miles from the town of Seaforth. He went, as it would seem to an English gentleman of his means and culture, to the backwoods. For the country still supported dense forests and was still in the pioneer stage of civilization. Nevertheless, the eye of the artist had been attracted thither. The spot where Cresswell chose to build his house, a spot not without aspects of beauty even to-day, though now sadly neglected, looked down upon the valley of the Maitland. The flow of water, which now is shallow and shrunken, formed then a brimming river, and the meadows and elms were such as the artist had admired at home, along the banks of the Avon or the backwaters of the Thames.

Cresswell lived there, there he painted, but he had to go a hundred miles from home before he could find any sympathy with his aims or understanding of his efforts. This applies likewise to Fowler, and it was undoubtedly the experience of Harlow White, another Englishman who came to Canada and essayed the praiseworthy task of painting local scenery.

We can scarcely imagine these artists seeking a market in Canada. On the other hand, we are as unlikely to think of them finding a market abroad. They were as a matter of fact, like others who painted in Canada about the time of Confederation, between the high and the low strata of appreciation. While their topographical pictures could be better done to-day by the camera, they were too good for the Canadian market and not good enough for the markets abroad. There were, happily, some outstanding exceptions—the still-life studies and landscapes of Fowler, which if not strikingly artistic are nevertheless faithful reproductions, and the landscapes of Jacobi. For although we have gone on many years from the time we first introduced these two painters, they were still active and on the scene. Kane, Berthon and Krieghoff also lingered on, although they were, with the exception of Berthon, soon to depart.

These painters witnessed the slow progress of the country. They saw the union of Upper Canada with Lower Canada, the beginning of responsible government, the struggle for Confederation, and finally Upper Canada and Lower Canada become but a part of one vast Dominion. But it must be emphasized that throughout all this, in all these years, they saw only one or two intermittent attempts, which resolved mostly into feeble social gatherings, to place in combination before the public objects of local production that could make any show of artistic merit.

Like Kane, but in later years and under vastly different circumstances, F. A. Verner, R.C.A., a native of Ontario, made studies of Western life, treating almost exclusively the buffalo and the Indian. Kane went into great detail. He made pictures of Indian villages, lodges, interiors and exteriors, Indian games, battles, dances, sports, and domestic handicrafts. He shows how the net and spear were used in capturing salmon. In many of the pictures the almost absolute nakedness of the Indians is impressive, though some of them, on the other hand, display an abundance of gorgeous apparel. "Halfbreeds Travelling" shows a large cavalcade passing from an elevation to a lower level. Every vehicle is two-wheeled and is hauled by one ox. A few horses are seen, but they run wild or carry the hunters. Each wagon supports a long upright pole, at the top of which flutters a flag or a tuft of some kind.

Kane's pictures deserve to be known and cherished if for no other reason than that the material for them was obtained by the painter under great risks and difficulties. Kane was borne in 1810 in Ireland. He came as a child, with his parents, to York, Upper Canada, at a time when art was almost unknown in that actual backwoods community. He had a natural tendency towards drawing, and in spite of adverse circumstances he succeeded in making the painting of portraits his profession. Early in life, however, he nourished the ambition to devote "such talents as he possessed", to quote from his book *Wanderings,* to the painting of a series of pictures "illustrative of the North American Indians and scenery". At the age of twenty-six years he visited the Southern States, and at thirty he went to Europe to study the paintings to be seen in the important picture galleries. Fifteen years later he returned to Canada, equipped, one might infer, to carry out his chief ambition in life. Through the good offices of Sir George Simpson, Governor of the Hudson's Bay Company, an order was given to the company's numerous brigades of boats to pass Kane through to the Pacific coast and back again. Sir George also gave the artist a commission for a number of pictures, and it was through his appreciation that we can account for Kane's pioneer achievements, for had it not been for the assistance he received it would have been impossible for him to accomplish even a small portion of what he actually did accomplish. For he was, during two and one-half years, a guest of the Hudson's Bay Company. Kane's portraits of Indian types, many of which have passed away forever, make up the best part of his work. Some of them are praiseworthy, even as works of art, and most of them are well composed, dignified and convincing.

The Progress of Art Since Confederation.—Canada had now advanced to the time of Confederation (1867), and as yet she could claim in painting almost nothing that would attract cultivated attention from abroad, at least in countries where our own language was spoken. England, it is true, was responding to the pre-Raphaelite movement—to the profound influence of the group of writers and painters who flourished at that time. But in the United States, Canada's nearest prototype, there had been no big combined movement, and in the whole realm of art where a lasting impression had been left we can point only to such writers as Washington Irving, Edgar Allan Poe, and Nathaniel Hawthorne, and to such painters as John Singleton Copley, George Inness and Winslow Homer. So that while Canada produced no painters or writers of world-wide reputation she was not hopelessly overshadowed by her powerful neighbour.

The Foundation of the Ontario Society of Artists.—Furthermore, it must be observed that while these movements and achievements were being felt abroad, Canada was unconsciously laying the foundations of a vigorous artistic future and, indeed, for an awakening of interest in all the arts. For a movement had begun, a movement which culminated in 1872 with the formation of the Ontario Society of Artists, of which the foundation members were John A. Fraser, Robert F. Gagen, Charles Stewart Millard, Marmaduke Matthews, T. Mower Martin, James Hoch, and J. W. Bridgeman. W. H. Howland, a layman, was the first president, and John A. Fraser, a painter, the first vice-president. A week after the organization meeting H. Hancock was elected a member and appointed secretary, a position which he held until 1889, when he was succeeded by Robert F. Gagen, who held the position until he died a few years ago and who for more than half a century was not only a refined and able artist but as well a genial guide, philosopher and friend to hundreds of beginners in art in Ontario.

John A. Fraser was, particularly at that time, an inspiration to the artists associated with him. He had an unusually direct method of handling water-colours, and in this medium his work still takes one right back to Cotman.

The first exhibition of The Ontario Society was held during April, 1873. Among the exhibitors were five who were still exhibiting fifty years later: Robert F. Gagen, F. M. Bell-Smith, F. A. Verner, T. Mower Martin, and Marmaduke Matthews.

To appreciate the significance of this early society it is well to keep in mind the fact that it preceded the organization of the Royal Canadian Academy and that it preceded also the organization in the United States of the Art Students' League and the Society of American Artists.

The Foundation of the Montreal Art Association.—During this period, that is during the 'seventies, a wave of artistic sentiment reached many persons of influence in both Canada and the States. As a result the Art Students' League of New York was formed in 1875 and the Society of American Artists in 1878. About the same time a group of enthusiastic laymen, headed by Beniah Gibb, founded the Montreal Art Association, which ever since has been the most robust art organization in the Dominion, not so much for the encouragement of art in Canada, if one could except its school of art, as for the acquisition of a beautiful gallery and beautiful paintings to place therein. This association had great advantages accruing from the sympathy and support of wealthy citizens, advantages that never have been enjoyed by any similar association in Canada.

Canada, however, could not as yet claim much distinction in art. Nevertheless the period of the 'seventies was formative, as well in politics as in æsthetics. To the student of Canadian history it possesses features of peculiar interest. The confederated provinces, bound together here and there by straggling communities and separated elsewhere by long stretches of uninhabited wilderness, were taking their first uncertain steps towards the goal of a great, extensive Dominion. The fishermen of Nova Scotia knew but little of the Quebec habitant or of the Ontario settler; and the habitant and the settler in their turn knew nothing more even of the wonderful possibilities of their own territories and less still of the amazing significance of the vast regions lying westward for three thousand miles between them and the Pacific. But the Intercolonial Railway was being built, the Canadian Pacific was being projected, and the old Grand Trunk was looking about for feeders. Sir John A. Macdonald, conscious of the need of an attractive scheme to raise his party out of the mire into which it had been thrown by the Pacific Scandal, began to introduce his ingenious National Policy, which by the application of a protective tariff was a bold attempt to force trade among the provinces by placing a barrier against foreign goods, particularly goods from the United States.

But what has all this to do with art? Nothing, except that with the attempt to nationalize trade we discover an attempt to nationalize art. The Princess Louise, who, as consort of the Governor General, the Marquis of Lorne, brought with her our first official touch of royalty, was herself something of an artist. She had lived at home during the period of the pre-Raphaelites, had seen the Barbizon School reach its zenith in France, had beheld the startling fame of such men as Turner and Corot, and now, as the impersonation of royalty in the greatest colonial possession that the world had ever seen, she undertook to signalize the Lorne *régime* by establishing with royal status a Royal Canadian Academy of Arts that might at least have some semblance to the Royal Academy of England.

The Foundation of the Royal Canadian Academy.—We should hesitate before giving to the Lornes all the credit for bringing about the organization of the Academy. It is true that the idea was put forward by the Marquis of Lorne at the opening of an exhibition held by the Art Association of Montreal, and soon thereafter the first steps towards organization were taken at a meeting of artists held at Toronto at which the Governor General was present. It was then determined to form a national academy of art which should bring together the leading artists of the country, but which should be quite apart from any other art association.

The Princess Louise, as well as the Marquis himself, took a lively interest in the details of the organization, and it appears that it was left for the Governor General finally to say who should compose the charter members. Every artist in the country, naturally enough, was eager and anxious to be taken into the membership, and it is known that at least one whose name was not on the list submitted to the Governor General was able, by his own persuasions, to convince the royal party at Rideau Hall that his work entitled him to membership, with the result that the wishes of his fellow painters were ignored and his name placed on the list. Perhaps this was due to the natural sympathy of the royal party, because the Marquis himself (as well as the Princess) was a sketch artist of no mean ability.

Kane and Krieghoff had passed away, but Fowler and Jacobi and Berthon, though veterans, had still some years of production ahead of them. Others too had come upon the scene. Lucius O'Brien, a real son of the soil, born at Shanty Bay, Ontario, in 1832, became an architect and afterwards acquired some skill as a water-colourist. But he seems to have possessed other qualities that fitted him to work in sympathy with the Lornes. He became the first president of the Academy. In that capacity he seems to have had more tolerance than many artists have for the supercilious attitude of society towards art, and perhaps for that very reason the early exhibitions were noted more for the social distinction of the guests than for the artistic distinction of the paintings. The fact that O'Brien was president gave to his own work a consequence that is discovered in it even to-day by art collectors who attach much importance to historical interest. He set up in College Street something of an establishment, just off the main thoroughfare of Toronto, and it is an interesting fact that this house was for several years the headquarters of the Ontario Society of Artists. It is even more peculiarly interesting as an example of the early designing of Frank Darling, an architect and a member of the Royal Canadian Academy, who received, in recognition of conspicuous merit, the gold medal given by the King on the recommendation of the Council of the Royal Institute of British Artists.

Architecture, it will be observed, was and is a recognized branch of the Royal Canadian Academy. Of a total membership of forty, the constitution provides for nine architects, while there may be as many as twenty-two painters, five sculptors, and four designers, etchers, or engravers. Although for years no woman has been an Academician, as the members of full rank are named, there are a number of women on the list of associates. It is understood commonly that women cannot be admitted into full membership, but there is nothing in the constitution to prevent them. In the early days one woman (Mrs. Charlotte M. B. Schreiber) was recognized as an Academician, but at that time there was in the constitution a clause to the effect that women members would not be required to act in committee. Since then that clause has been removed, but all along there seems to have been a determination to debar women from taking any active part in the affairs of the Academy. It is not assumed that women cannot qualify, but it has been unlikely that any woman could command enough votes to elect her. So that we have throughout the Dominion a number of women who are acknowledged to be better artists than some of the Academicians, and yet they may not append the letters R.C.A. to their names. They are permitted, however, to append A.R.C.A., which signifies associate membership.

The so-called charter members of the Academy were Napoleon Bourassa, W. N. Cresswell, A. Allan Edson, Daniel Fowler, John A. Fraser, James Griffiths, Robert Harris, Eugene Hamel, J. W. Hopkins, H. Langley, T. Mower Martin, L. R. O'Brien, William Raphael, Henry Sandham, Mrs. Charlotte M. B. Schreiber, T. S. Scott, James Smith, W. G. Storm, and F. C. van Luppen. Of these nineteen, five were architects—Hopkins, Langley, Scott, Smith, and Storm. Van Luppen was a sculptor. He was born in Belgium, and there also he died.

In reviewing the Academy it is well at the same time to review the Ontario Society of Artists, for the one dovetails into the other. Perhaps it would be fairer to say that the Society has been a stepping-stone to the Academy. But, as we have observed, the Society was the first organization. It had been in existence about eight years when the Academy was formed, in 1880. The Ontario Society is a chartered body, but, unlike the Academy, it has no academical status and therefore may not and does not issue diplomas.

The Society has flourished with the aid of a meagre annual grant of money from the Ontario Government. Most of the money, $500 annually, was used, according to agreement, for the purchase of paintings from each annual exhibition. For some time there was a fund of $1,200 expended annually by the Ontario Government through a committee, mostly laymen, for purchasing paintings by members of the Society on condition that the Society should maintain an exhibit of work in the Normal School, Toronto. Many of these paintings were hung from year to year in the corridors and other available space in the Normal School building, and others were hung in the Parliament Buildings. These buildings withstood the strain for about forty years, but at length the Whitney Government resolved to disperse the collection by having individual pictures hung in normal schools of the province. The educative value of the scheme is doubtful, and while it should worry no one as to the disposition of many of the pictures, the aggregate effect, if these pictures could be properly assembled, would be important.

Notwithstanding all this, the Society has been a recruiting ground for the Academy, and the same, but in a lesser degree, applies to the Montreal Art Association. From the Society went in the first place Jacobi and Fowler, and Jacobi succeeded O'Brien as president. The same can be said of nearly every artist in Ontario. In its membership the Society has not been so restricted as the Academy, and to it beginners in painting commonly have looked for their first introduction to the public. The standard in these organizations never has been rigid, but young painters naturally receive with greater regard an acceptance for exhibition by a committee of the Academy.

The Study of Art Abroad by Canadian Artists.—An indirect effect, even if but slight, of the presence of foreign artists in Canada, where they were confined almost exclusively to the interior province of Ontario and the adjacent city of Montreal, was the encouragement thereby given to native Canadians to study art in foreign countries. This was felt first in the 'eighties and 'nineties, when many young Canadians sought knowledge and inspiration abroad, mostly in France, but also in England, in Holland and elsewhere on the Continent. And even to-day critics are heard complaining, though not so frequently or grievously as heretofore, that Canadian artists see their own country through foreign spectacles.

Conspicuous among the first Canadian artists to study and work abroad was James Wilson Morrice, who died in Tunis in 1924. He is represented in the Luxembourg Galleries, Paris; the Pennsylvania Academy of Fine Arts, Philadelphia; the Section Art Décoratif of the Louvre, Paris; the Tate Gallery, London; the National Gallery of Art, Washington; the National Gallery of Canada, Ottawa, and in public galleries in Nantes and Odessa. He was a member of many important art organizations in Paris and London. His choice of subject usually was landscape or marine, but he also painted the figure.

Horatio Walker is another important Canadian painter, still living. His bent has been towards landscapes, with animal figures, and *genre* subjects. He has been dubbed the Canadian Millet. Half a dozen medals have been awarded to him in the United States, where examples of his work can be seen in many public galleries. Other Canadian painters who have lived and painted abroad with distinction are Paul Peel, Wyatt Eaton, Blair Bruce, Curtis Williamson, E. Y. Dyonnet, John Russell, Ernest Lawson, W. E. Atkinson, Clarence Gagnon, A. Suzor-Coté, St. Thomas Smith, Homer Watson, Lawren Harris, Franklin Brownell, and A. Y. Jackson. Peel's canvas "After the Bath" was awarded a gold medal at the Salon, Paris, in 1892, and was bought by the Hungarian Government. Eaton was active in the organization of the American Art Association. Williamson was awarded a medal at Philadelphia for figure painting, and he also won a silver medal at the St. Louis Universal Exposition. Lawson has won several valuable awards in the United States as a landscapist, and he is classed among the foremost "American" painters. Gagnon is best known abroad as an etcher, and he is represented in the Petit Palais, Paris; South Kensington Museum, London; and in Dresden, Venice, Mülhausen, and The Hague. Watson was awarded a gold medal at the Pan American Exhibition, Buffalo, in 1901. Brownell was awarded a gold medal at the Paris Exhibition of 1900. Jackson is one of the only two Canadians represented in the Tate Gallery, London, the other being James Wilson Morrice. Harris also has won distinction and several prizes abroad.

The Group of Seven.—Within quite recent years there has been in Canada, as elsewhere, a departure, mostly by young artists, from academic lines. This was first noticed in the city of Toronto, where, in 1920, they gave their first public exhibition in the name of the Group of Seven. This group was composed of Lawren Harris, A. Y. Jackson, Arthur Lismer, J. E. H. Macdonald, Frank Johnston, F. Horsman Varley, and Franklin Carmichael. These painters, several of whom were young and venturesome, found their inspiration in the wild and rugged parts of northern Ontario, where Tom Thomson and E. W. Beatty, their forerunners, had already blazed a trail. Thomson, who died when his work was just coming into prominence in a restricted sense, was not a modernist in keeping with the meaning that since has been attached to that word; nor was Beatty. For while Thomson painted in a bold and luscious manner, he gave corresponding attention to contour and design. From these features the Group of Seven departed, as many other groups and individuals elsewhere had departed, until they became, in the painting of landscape which was their chief vehicle, as bizarre almost as the ultra bizarre anywhere, although not so extreme as the "cubists", the "vorticists", or many others who have devised cognomens for their cults.

Within recent years, the " modern " tendency in painting has attracted mostly the younger painters, especially beginners, with the result that for years every regular exhibition of paintings in Canada has been dominated by works that are at least loud in colour and formidable in treatment and design. One group of students went so far as to withdraw in a body from the Ontario College of Art in order to establish a society or group where they might work out what they regarded as their own ideas untrammelled by tradition or the restrictions of academic teaching. The last year or two, however, has seen a change; so much so, indeed, that at the annual exhibtion of the Ontario Society of Artists in 1930 and '31 the absence of extreme or " freakish " pictures was regarded by many persons as a relief.

Canadian Sculptors.—Passing mention has been made of early wood carvings in Canadian churches, but sculpture on the whole was not a notable art in Canada until near the end of the eighteenth century. The first sculptor of real significance was a French Canadian, Philippe Hébert, examples of whose work may be seen in the bronze casts of historical subjects which stand in front of the Provincial Parliament Buildings, in the city of Quebec, and of the Maisonneuve monument, which takes the form of a public fountain on Place d'Armes, Montreal. Another historical monument, the largest and most imposing that has yet been produced by a Canadian, is the one now being erected on Vimy Ridge, France, as a memorial to the Canadian soldiers who fell in the great battle fought there. The sculptor is Walter S. Allward, a member of the Royal Canadian Academy. Allward's monument to Graham Bell, inventor of the telephone, stands in the city of Brantford, and another to the Canadian soldiers who fell in the South African war rises skyward in the city of Toronto. Other Canadian sculptors are A. Laliberté, Dr. R. Tait MacKenzie, George W. Hill, Hamilton P. MacCarthy, A. Phimister Proctor, Katherine E. Wallis, A. Suzor-Coté, Emmanuel Hahn, Frances Loring, Florence Wyle, Elizabeth Wood, Alfred Howell, and Lionel Fosbery.

A. Phimister Proctor is one of the most notable Canadian sculptors. He was on the Jury of the Paris Exhibition of 1900, and is represented in the Metropolitan Museum, New York, the Art Gallery of Toronto, the National Gallery of Canada, and in several public parks in New York City. The huge lions in front of the Public Library on Fifth Avenue in the same city are of his moulding, as well as the colossal sleeping lions which are a part of the McKinley Memorial Monument in the city of Buffalo. Bronze casts of statues by Hill, which are mostly historical, may be found in the city of Montreal and in the Carnegie Institute, Pittsburgh; and by MacCarthy in Ottawa, Saint John, N.B., and Annapolis Royal, N.S. The work of the other sculptors mentioned is mostly of miniature proportions, although Dr. MacKenzie has executed a number of life-size figures of athletes and classic heroes. As a result of the Great War many monuments of patriotic character have been erected in cities and towns, and even in villages, but most of them possess doubtful artistic merit. There are as well, in conspicuous spots adjacent to the public buildings in the capitals of the nine provinces that compose the Dominion, and also at the Dominion capital (Ottawa), monuments to British rulers and statesmen, and to Canadian public men, educationists, ecclesiastics, military heroes, politicians, and leaders generally.

Art Galleries of Canada.—The principal public art galleries in Canada, indeed the only ones of note, are the National Gallery of Canada, Ottawa, the Art Gallery of Toronto, and the Montreal Art Gallery. The National Gallery possesses examples of all the early painters in Canada, most of the contemporaneous native painters, all the diploma paintings of the Royal Canadian Academicians, and as well a creditable collection of old masters and modern painters. The Montreal Art Gallery displays a number of very fine old masters and examples of later schools, but the showing of work by Canadians is meagre. Canadian painters, again, are represented better in the Art Gallery of Toronto, where there is also a limited showing of eighteenth and nineteenth century art.

For private collections of paintings Montreal, until recently, was regarded as the third most notable city on the American continent. There were the collections of Lord Strathcona, Lord Mountstephen, Sir George Drummond, Sir William van Horne, and the Greenshields, but most of these collections have been dispersed. In the city of Toronto may be seen in private houses what are accepted as fine examples of such painters as Rembrandt, Frans Hals, Romney, Raeburn, Gainsborough, and Reynolds, as well as of celebrated modern French and Dutch painters. The capital city, Ottawa, which is much less important in size and wealth than the other two cities mentioned, has a number of noteworthy private collections, mostly of the work of contemporaneous European artists.

Architecture in Canada.—Architecture in Canada has been affected by European tradition perhaps more than any other art. Nevertheless it has made, from time to time, ever since Champlain built his first habitation under the precipice at Quebec, courageous attempts to build edifices that would meet the requirements of the climate, the people, and the times, in a fashion different from that of any other country. This is to be observed, naturally, in French Canada, where the earliest settlers built their homes, clinging, although not too tenaciously, to the simple structure they had been used to in France. "The requirements", as well expressed by Mr. Percy Knobbs, "were for the most part simple in character, with stout walls of well-set rubble, with wooden casements, windows and shutters; steep roofs with pronounced bellcast, stone gables carried up to the skews well above the roof and stout chimneys were the main characteristics of their [the early builders'] work".

These bellshape roofs often extended out so as to form a verandah or shelter at the front door as well as at the back. A prototype, though varied, can still be seen in northern France. But it is true that although the French Canadians never seemed to have achieved a log structure in the same sense as had the Swiss and the Scandinavians, still they early learned to set logs horizontally, with notches and bonds at the quoins.

The foregoing applies to early domestic architecture. For more pretentious and public buildings there was a mixture of the French and, later, the Georgian classic, to be followed by the revised Gothic of the Victorian era. More recent developments in the United States have had a marked effect, influenced by historic facts and racial instincts.

With the beginning of the twentieth century a great change came in domestic architecture, which, although it was largely due to architects trained abroad, contained novel characteristics and features well suited to climatic conditions. This change has been most noticeable in the inland provinces of Ontario and Quebec.

The Old Country tradition was early established in the Maritime Provinces and parts of Ontario, where there were early settlements of Scots, while in southern Quebec and the Ottawa valley wood construction in studding, clapboarding and shingled roofs resembled the edifices of a similar character in New York and Massachusetts, in the United States. Here and there frequently one could see, and still can see, the influence of classicism, especially in the Southern States, where columns and mouldings whose influence has been felt even as far northward as Canada are in evidence to-day. At Halifax, on the Atlantic coast, there are some noble buildings in the Georgian style, and farther inland there are many huge buildings for carrying on commerce and finance, especially in Montreal and Toronto. In Christ Church Cathedral, Montreal; in the Parliament Buildings, Ottawa, and in the main building of the University of Toronto one can see fine examples of Victorian Gothic architecture.

Bibliography.—The bibliography of art in Canada is meagre. Apart from brochures and magazine articles, only a very few works of reference have been published on the subject. In the year 1917 E. F. B. Johnston published a monograph entitled "Canadian Art and Artists", which appeared in the form of a special chapter for *Canada and Its Provinces,* (Toronto: The Publishers Association. Twenty-three volumes). In 1925 Newton MacTavish published "The Fine Arts in Canada", which was the first comprehensive history of the kind, (Toronto: The Macmillan Company of Canada), and in 1927 F. B. Housser published an appreciation of the Group of Seven in a book entitled "A Canadian Art Movement" (Toronto: The Macmillan Company of Canada). A comprehensive brochure on "Canadian Painters and Sculptors", by M. O. Hammond, was published in 1930, (Toronto: The Ryerson Press). Several "year books" on art in Canada have been issued, the latest and most ambitious of the kind being "Year Book of the Arts in Canada, 1928-'29", edited by Bertram Brooker, (Toronto: The Macmillan Company of Canada).

CHAPTER XXVI.—PUBLIC HEALTH AND BENEVOLENCE.

Greatly increased attention has been devoted during recent years to public health and its related subjects, the work embracing, in addition to the supervision of the general health of the community, the maintenance of hospitals and institutions for the care of needy and indigent persons. In general, the administration of public health activities and the establishment and maintenance of such institutions is in the hands of the various Provincial Governments, under the powers given them in sec. 92 of the British North America Act, 1867. Under their control municipalities, societies and individuals generally initiate charitable and humane efforts, depending on the Government to some extent for financial aid and for competent uniform inspection of methods and standards. Exercising particular jurisdiction over some phases of the general health of the people of the Dominion is the Department of Health of the Dominion Government, while the Dominion Council of Health acts as a clearing house on many important questions related to the health of the people. This Council consists of the Deputy Minister of the Dominion Department of Pensions and National Health as chairman, the chief executive officer of the provincial Department or Board of Health of each province, together with such other persons, not exceeding 5, as may be appointed by the Governor in Council to hold office for 3 years. Of these 5 appointed members, four have in the past represented agriculture, labour, rural women's work and social service, and child welfare, while the fifth member is a scientific adviser on public health matters. (A fuller description of this Council will be found at pp. 908-9 of the 1926 Year Book.)

During recent years the increase of public interest in social and welfare problems has been very marked, and the Dominion Bureau of Statistics has been repeatedly urged to extend its statistical work in this field. The taking of the decennial census in 1931 offered an opportunity to initiate work along these lines, and a first approach to the problem, by means of a survey of the various types of institutions, after the manner of the United States Census of Institutions, covering hospitals, welfare institutions, etc., was decided upon when the schedules were drawn up.

The purpose behind the work is not merely to ascertain the numbers of men women and children committed to such institutions, but to obtain also pertinent facts and other information that will furnish a basis for the analysis of the social problems involved. In Canada at present, since most of these institutions are under Provincial Government control, comparable data do not exist owing to differences in methods of collection, to the fact that the provincial fiscal years extend over different months, and, in some cases, to the scarcity or absence of published information. The extent of these difficulties will be apparent from a perusal of Tables **1**, **2** and **3**, following, in which an attempt has been made to combine provincial figures in order to give statistics of institutions for Canada. In taking the 1931 census, arrangements have been made to take: (1) the usual census data for each individual who is resident in an institution; (2) special characteristics of the inmates which constitute them a social problem; and (3) general information as to plant personnel and finances for each institution.

Public Health.—Apart, however, from the actual organization of provincial Health Departments and of the administrative bodies charged with the management of hospitals and other such institutions, particular attention is given to the same branches of public health work in all the provinces. Perhaps the most important of all, and reflecting most clearly the benefits accruing from such work, are the provisions for medical inspection of school children. These are carried out in some cases by the district or sub-district medical health officers, and in others by public health nurses whose activities are confined to this work alone. In addition to the continual supervision exercised over the health of the children, expert advice and assistance are supplied freely to children, teachers and parents. In many cases dental inspection is provided for. While this work has been carried on upon a considerable scale for only a few years, great benefits have already been realized from it, notably general improvement in health and sanitary conditions and in the control and prevention of epidemics.

In other directions also, governmental activities through Departments of Health have produced numerous evidences of their value, which may be illustrated by an examination of the death rates from various communicable and other diseases, such as are shown in the Vital Statistics chapter of the present volume. In Ontario, for example, the rate of deaths from tuberculosis decreased from 85·6 to 52·1 per 100,000 between 1913 and 1929, and that from typhoid fever from 19·4 to 3·0 per 100,000. While some other rates have increased, it may be noted that increases are not general in the case of communicable diseases and that, in respect of tuberculosis especially, the cities of the province show the lowest mortality rates. The reason for this is the fact that public health work is more advanced there than in the towns and rural areas.

Institutions.—The most familiar of all the public institutions established to administer and foster the general health of the community is the general hospital common to all cities and towns of any considerable population, and found also in the more prosperous rural districts. Such hospitals are generally erected and supported by the municipality, their actual administration being in the hands of a board of trustees; their revenue, in addition to that provided by the municipality, is derived in the main from grants from the Provincial Governments, from donations of individuals and societies, and from patients' fees. Admission and treatment are free to all deserving persons who apply for them and whose resources are so limited as to prevent their otherwise receiving proper medical attention, while it is more or less generally expected of others that payments for services shall be made in proportion to costs and the ability of patients to defray them. Second in importance are the houses of refuge and orphanages, homes where destitute adults and homeless children are taken in, fed and clothed until they can support themselves or until homes for them are found elsewhere. Orphans' homes are found in practically every urban and rural community of any size, while refuges or homes for the aged are supported by the larger centres and by county municipalities. Asylums for the insane, also found in all the provinces, differ from the foregoing types in that they are in general owned, supported and administered entirely by the provinces. In Nova Scotia, however, the insane of each county, together with the inmates of the refuges and orphanages, are in some instances cared for in one institution. Other institutions supported by the public include isolation hospitals, maternity hospitals, homes for the deaf, dumb and blind, homes for incurables, infirmaries, homes for epileptics and for lepers, and tuberculosis sanatoria.

Throughout the Dominion many other more or less similar institutions exist whose nature is more independent than that of the types mentioned above.[1] Since these institutions do not receive Provincial Government grants and hence are not in all cases subject to inspection, no complete record showing their number, purpose and the number of inmates can be obtained.

But little historical information on the subject is available. No statistics of public benevolence had been presented in the Canada Year Book for some years before their inclusion in the 1922-23 edition. It seems, however, that until comparatively recently the care of needy and destitute persons, as we now recognize it, was largely in the hands of individuals, of whose humane efforts scanty evidence remains for present use. The inability of private effort to cope with the problem has led to the present government control of the majority of benevolent institutions.

In the exercise of the powers granted them at Confederation, the various Provincial Governments have enacted legislation governing the regulation of public charities. In Ontario, for example, the Houses of Refuge Act, the Hospitals for the Insane Act, the Private Sanitarium Act, the Sanatoria for Consumptives Act, the Hospitals and Charitable Institutions Act and the Prisons and Public Charities Inspection Act have been passed, dealing with different phases of the subject. Similar legislation of other Provincial Governments provides for the maintenance of hospitals, the carrying-on of charitable work, the provision of funds, and inspection by competent officials.

Numbers and Types of Hospitals and Charitable Institutions in Canada.—An attempt has been made to bring together in tabular form certain statistics of the number of institutions in the Dominion concerned with the health of the community or carried on as the result of benevolent effort. It is, of course, highly desirable that not only the mere data of numbers but also those relating to inmates, staff, finances, etc., should be similarly collated for the country as a whole. This, however, as stated above is for the present impossible, owing to the incomparability of statistics published by the various provinces and in others to the scarcity or absence of published information. The matter made available is given in as complete and concise a form as possible in Tables **1**, **2** and **3**.

Table **1** is designed to show the numbers of institutions in Canada, by provinces, for the latest provincial fiscal years, according as the statistics for the respective provinces are available.

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[1] For information regarding Dominion Government hospitals for returned soldiers, see p. 1043 of this volume, also pp. 20-29 of the 1920 Year Book.

1.—Number of Public Hospitals and Benevolent Institutions in Canada.

NOTE.—The latest available figures are given. The fiscal years of the various provinces are as follows: Prince Edward Island, Jan. 1 to Dec. 31; Nova Scotia, Oct. 1 to Sept. 30; New Brunswick and Ontario, Nov. 1 to Oct. 31; Quebec, July 1 to June 30; Saskatchewan and Manitoba, May 1 to April 30; and British Columbia and Alberta, April 1 to Mar. 31.

Type.	P.E. Island.[2]	Nova Scotia.	New Brunswick.[2]	Quebec.[2]	Ontario.[2]	Manitoba.[3]	Saskatchewan.[2]	Alberta.[1]	British Columbia.[1]
General hospitals	3	23[3]	19	67	136[6]	32	70[5]	33	68
Maternity hospitals	–	1[3]	–						
Private hospitals	–	–	10		71	10		45	–
Isolation hospitals	–	–	–		–	1		4	–
Tuberculosis sanatoria	–	1	2	10	12	1	2	1	1
Hospitals for the insane	1	24[4]	1	7	12	4	2	2	3
Homes for infirm	1	–	–	122	–	–	6	–	–
Homes for incurables	–	–	–		6	1		–	–
Orphanages	3	18[2]	1		32	25		–	1
Houses of refuge	–	21[2]	2		74			–	–
Leper stations	–	–	1	–	–	–	–	–	1

[1] 1928. [2] 1929. [3] 1930.

[4] Refuges and orphanages are also hospitals for the insane in some cases.

[5] Including 15 Red Cross hospitals. [6] Including 21 Red Cross outposts.

A summary of the various types of hospitals in Canada, with their accommodation for patients, taken from a Directory of Hospitals published by the Department of Pensions and National Health, and recently revised by the Secretary of the Canadian Medical Association, Toronto, is given as Table 2. The same report gives the average cost throughout Canada, per patient per day in general hospitals, by beds, as $3.45. Contrary to what might be expected, this cost, generally speaking, increases with the size of the hospital, for, while the larger hospitals purchase and operate to better advantage, this economy is more than offset by the more complete diagnostic and therapeutic equipment provided by them. The total numbers of hospitals and beds are not the aggregates of the items shown in Table 2 for the reason that some duplication exists. For instance, pædiatric hospitals are for the most part listed under both "Public General hospitals" and "Pædiatric hospitals" and certain tuberculosis, orthopædic, mental, maternity or private hospitals may appear under more than one classification. As at February, 1931, the Canadian Medical Association estimated the total number of beds throughout Canada at 72,358, divided by provinces as follows: Prince Edward Island, 535; Nova Scotia, 3,191; New Brunswick, 2,554; Quebec, 19,986; Ontario, 27,511; Manitoba, 6,220; Saskatchewan, 5,777; Alberta, 5,798; British Columbia, 7,007. Reverting to the cost of maintenance per patient per day, the figures of the Directory of Hospitals, quoted above, compare reasonably with figures compiled by the Dominion Bureau of Statistics.[1] Returns received by the Bureau indicate average costs of $3.49 per patient per day in 1928 and $3.62 in 1929. These figures represent a complete cost estimate, including such items as taxes, depreciation, insurance, interest, etc., and the observation is made that without these special items the average cost remained practically stationary for 1929.

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[1] See press letter, issued April 7, 1931, on Rates and Index Numbers of Hospital Charges, by Herbert Marshall, B.A., F.S.S., Chief, Internal Trade Branch, Dominion Bureau of Statistics, and obtainable from the Dominion Statistician, Ottawa. See also pp. 825-6 for information on hospital charges, 1913-29.

Indigent patients, who, where they pay anything at all, pay only fractional amounts of the actual cost of their treatments, numbered 340,593 in 1929, showing an increase of 10 p.c. compared with the previous year.

The cost of maintenance has risen almost without interruption since 1913, when the average as computed by the Bureau of Statistics was $1.68.

2.—Summary of Canadian Hospitals and Beds, 1930.

Type of Institution.	Number of Hospitals.	Number of Beds.
Public general hospitals (including general pædiatric and Red Cross)	485	38,018
Tuberculosis institutions	31	5,655
Pædiatric accommodation in general hospitals	246	3,119[1]
General Pædiatric hospitals	15	1,209
Orthopædic hospitals	13	533
Total beds for pædiatric and orthopædic	–	4,271
Public maternity hospitals (accepting maternity only)	9	643
Public maternity hospitals (including those maternity hospitals accepting gynæcology or surgery and the Montreal Maternity Hospital)	16	1,076
Maternity accommodation in general public hospitals (estimated from returns)	–	4,636
Maternity beds in private hospitals (as reported)	–	761
Total maternity accommodation (estimated)	–	6,000[1]
Department of Pensions and National Health ("Contract" hospitals not included)	16	3,614
Mental and Neurological hospitals: Public	36	25,978
Private	6	884
Totals	42	26,862
Red Cross hospitals, outposts and nursing stations	47	401
Private hospitals	274	2,632[1]
Government hospitals: Dominion	11	3,402
Provincial (including General Hospital, Halifax)	36	23,464
General hospitals with tuberculosis beds or annexes. Many others accept such patients temporarily. Saskatchewan requires each public hospital to accept tuberculosis patients up to 10 p.c. of its capacity. This accounts for 54 hospitals and 241 beds in this list	105	954
Municipal hospitals in Canada (including isolation hospitals)	89	7,120
Hospitals for the incurables	33	2,700[1]
Convalescent hospitals (including private hospitals)	9	325
Public hospitals prepared to treat drug addicts. (There are also several private institutions)	1[2]	–
Training schools for nurses	215[1]	–
Hospitals requiring internes	97	425 appointments
Hospitals maintained by:—		
(1) Religious organizations—		
Anglican Church	4	–
Presbyterian Church	4	–
Roman Catholic Sisters	132	–
Salvation Army	16	–
United Church	21	–
(2) Red Cross	47	–
(3) Shriners	2	–
(4) Women's Institute	2	–
(5) King's Daughters	1	–
(6) I.O.D.E	1	–
(7) W.C.T.U	1	–
(8) Victorian Order	1	–

[1] The figures are approximate only. [2] Ponoka, Alberta.

Hospitals for Mental Defectives.—It is only in the case of hospitals for mental defectives that statistics of institutions throughout the nine provinces which possess any degree of comparability can be compiled. Table **3** brings the more important data together and may be taken as giving a general idea of the situation throughout the Dominion.

3. Statistics of Hospitals for Mentally Defective Persons in the Nine Provinces of Canada, 1929 or Latest Years Reported.

NOTE.—The latest available figures are given. The fiscal years of the various provinces are as follows: Prince Edward Island, Jan. 1 to Dec. 31; Nova Scotia, Oct. 1 to Sept. 30; New Brunswick and Ontario, Nov. 1 to Oct. 31; Quebec, July 1 to June 30; Saskatchewan and Manitoba, May 1 to April 30; and British Columbia and Alberta, April 1 to Mar. 31.

Item.	P.E. Island.[1]	Nova Scotia.[2]	New Brunswick.[3]	Quebec.[4]	Ontario.[5]
Number of institutions	1	24	1	7	12
Inmates (beginning of year)	266	2,100	782	7,521	9,774
Admissions	87	897	192	2,727	2,355
Discharges and deaths	88	821	160	2,310	1,990
Improved or cured	60	–	–	–	1,114
Inmates (end of year)	265	2,184	747	7,938	10,060
Staff—Doctors	–	–	2	44	62
Nurses	–	–	81[6]	1,375	1,347[6]
Revenue—Government grants $	120,330	–	–[8]	1,345,533	–[8]
Fees $	8,581	–	114,233	328,834	962,273
Totals $	128,911	–	–	2,166,197[9]	1,409,768
Expenditure—Salaries $	–	–	52,093	602,238	1,890,359
Buildings and equipment $	–	–	162,574[7]	539,445	1,121,986
Totals $	123,079	–	214,667	2,174,188[9]	4,914,015

Item.	Manitoba.[10]	Saskatchewan.[11]	Alberta.[12]	British Columbia.[13]
Number of institutions	4	2	3	3
Inmates (beginning of year)	2,922[14]	2,604	1,309	2,269
Admissions		–	388	543
Discharges and deaths		–	231	272
Improved or cured		–		–
Inmates (end of year)		–	1,468	2,347
Staff—Doctors	–	7	6	9
Nurses	128	288	–	–
Revenue—Government grants $	–	652,189	400,001	730,991
Fees $	–	182,821	133,019	132,239
Totals $	154,731	835,010	533,020	863,230
Expenditure—Salaries $	–	258,096	216,365	335,270
Buildings and equipment $	–	66,688	148,917	147,893
Totals $	957,253	324,784	533,020[15]	863,230[15]

[1] For the year ended Dec. 31, 1930. [2] For the year ended Sept. 30, 1929. [3] For the year ended Oct. 31, 1929. [4] For the year ended Dec. 31, 1929. [5] For the year ended Oct. 31, 1930. [6] Including attendants. [7] Includes supplies, food, etc. [8] Deficit borne by province. [9] Total includes sundry unspecified items of revenue or expenditure. [10] 1930 figures. [11] Year ended Dec. 31, 1929. [12] Year ended Dec. 31, 1928 except in the case of finances where figures are for the fiscal year ended Mar. 31, 1929. [13] Year ended Mar. 31, 1929. [14] Total number of patients receiving treatment. [15] Includes other items of expenditure.

Section 1.—Public Health Activities of the Dominion Government.

The Act of Parliament (18-19 Geo. V, c. 39, An Act respecting the Department of Pensions and National Health) creating the Dominion Department of Pensions and National Health, clearly defined the functions of that Department, which is divided into two distinct divisions, those of Pensions and National Health. The chief functions of the National Health Division (which from 1919 to 1929 was the Department of Health) are: to protect the country against the entrance of infectious disease; to exclude immigrants who might become a charge upon the country; to treat sick and injured mariners; to see that men employed on public construction work are provided with proper medical care; to set the standards and control the quality of food and drugs, except meat and canned goods, which are under the Department of Agriculture; to control proprietary medicines and the importation and exportation of habit-forming drugs such as morphine, cocaine, etc.; to prevent the spread of venereal diseases; to care for lepers and to co-operate with the provinces with a view to preserving and improving the public health. The various divisions of the Department of Health, existing prior to the merger, are still maintained.

One of the subdivisions of the National Health Division is that of maritime quarantine. Its object is the prevention of the importation of major infectious diseases into the country. With this end in view, quarantine stations are in operation at the several maritime ports. Every vessel coming from abroad is inspected and passengers or crews who are found to be suffering from infectious disease, together with contacts, are removed to the quarantine station after the principles laid down in the Convention of Paris, 1926.

Associated with quarantine is the examination and medical care of immigrants. With this purpose in view there has recently been placed in Great Britain, Ireland and on the continent of Europe a staff of Canadian doctors, whose duty it is to examine at their homes and points of origin, or at the seaport of embarkation in Europe, all intending emigrants to Canada. By this arrangement it is hoped to obviate the expense, discomfort, disappointment and hardship which have so often occurred on account of the necessity of deporting to their country, owing to physical or mental disability, immigrants who have come all the way across the ocean and reached Canada.

For many years there have been in operation in Canada two lazarettos for the treatment of leprosy, one at Tracadie in the province of New Brunswick, and the other at William Head in the province of British Columbia. These are under the direction of the Department. Great advances have been made, not only in providing comforts for the lepers, but in the actual treatment of the disease.

Under Part V of the Canada Shipping Act, the Department treats sick and injured mariners entering Canadian ports on the payment of certain dues by shipowners. Hospitals, hospital facilities and medical care are provided through the Division of Marine Hospitals' Service.

The Department co-operates with the provinces in assisting them in the control of venereal diseases and votes annually a sum of about $100,000 which is divided *pro rata* among the provinces for this purpose. The provinces, however, must expend at least an equal amount.

In the field of child welfare, the Department co-operates with the provincial Departments and voluntary organizations and acts as a mentor and guide in directing the efforts of various bodies which are concerned with child welfare. A great mass of literature is distributed throughout the country, which reaches the outposts and is of very great value to parents as it helps them to care for their children and homes. Maternal mortality has also seriously occupied the Chief of the Branch of Child Welfare of the Department, and very valuable assistance has been given to the provinces, by statistics and otherwise, in stirring up public opinion to the terrible wastage of mothers' lives occurring on account of improper pre-natal care and careless medical attention, or entire lack of this, at maternal periods and in the early life of the child.

The Public Works Health Act is administered by the Department of Pensions and National Health. Under this Act, the Department is required to see that men working on construction work, canals, railways and other forms of public works, are provided with efficient medical and hospital attention.

The Food and Drugs Branch of the Department has to do with the safeguarding of foods and drugs from adulteration. Inspectors pick up, throughout the country, samples which are subjected to analysis in the various departmental laboratories. This Branch is under the direction of the Chief Dominion Analyst.

The Proprietary or Patent Medicine Branch operates in a somewhat similar manner. No patent medicine may be offered to the public as a "cure" for disease. The word "cure" is taboo. All must be registered, and it is the duty of the Department to see that each is of some value and not dangerous. The presence of all potent drugs, with the dosage, must be stated on the label.

The prevention of the pollution of inland waters is receiving the serious attention of the Department. A special division conducted by a sanitary engineer has been created for the purpose of providing a safe water supply on board vessels and preventing pollution of rivers and streams through discharged sewage. This division co-operates with the International Joint Commission in the enforcement of rules and regulations relating to questions involving public health with regard to boundary waters between the United States of America and Canada, in addition to supervising federal public buildings and offices with a view to conserving and promoting the health of civil servants and other government employees.

The Division of Hospital Advisory Services offers expert advice and assistance with regard to planning, construction, organization and maintenance of hospitals.

Since the introduction of opium smoking in Canada thirty or more years ago the use of habit-forming drugs, such as morphine, heroin and cocaine, has increased. It is estimated that there are about 8,000 drug addicts in Canada. One of the first steps taken by the Department of Health was the creation of a Narcotic Branch. Through this Branch, the importation and sale of such drugs are controlled in accordance with the principles laid down by the Hague Convention and now adopted by the League of Nations. Wholesale agents, physicians and druggists are obliged to keep records of importation or sale, as the case may be, and to forward their records periodically to the Department. The legitimate use of these dangerous habit-forming drugs is thus controlled.

The Laboratory of Hygiene is concerned with the examination of bacteriological and seriological products, such as vaccines and sera, as well as the standardization of the more potent remedies such as digitalis and strophanthus. Research is an important function of the Laboratory.

Section 2.—Provincial Public Health Activities.

The material appearing under this heading in the 1930 edition of the Year Book has not been brought up-to-date this year, in view of the intended change in the compilation of these statistics referred to on p. 1010. The reader is referred to pp. 948-959 of the 1930 Year Book and to the individual reports published by the Public Health authorities of the Provincial Governments.

Section 3.—Other Public Health Activities.

Subsection 1.—The Canadian Red Cross Society.

A brief description of the organization and activities of the Red Cross Society in Canada appeared on p. 923 of the Canada Year Book, 1922-23.

Subsection 2.—The Victorian Order of Nurses.

The activities of the Victorian Order of Nurses since its inception in 1897 are summarized in the Canada Year Book, 1922-23, p. 923.

Subsection 3.—Mothers' Allowances.

Five of the nine provinces of Canada provide for the payment of allowances to mothers who are widowed or without adequate means of support. The province of Manitoba was the first to take up the work in 1916, and the example has been followed by the other western provinces and by Ontario.

A statement regarding Mothers' Allowances, showing the numbers of beneficiaries and the scales of payments and methods of administration, was published at pp. 935-936 of the 1925 Year Book.

CHAPTER XXVII.—MISCELLANEOUS ADMINISTRATION.

Section 1—Public Lands.

Subsection 1.—Dominion Public Lands.[1]

Agreements have recently been reached, and assented to by the Crown, for the transfer of the lands and natural resources of the Prairie Provinces and of the Railway Belt and the Peace River Block in British Columbia from the Dominion to the provinces concerned. The National Parks and Indian reservations are not included in these transfers but remain under the jurisdiction of the Dominion Government as in the older provinces of Canada. These agreements were entered into with the object of placing the western provinces in the same position as the original provinces of Confederation under section 109 of the British North America Act, 1867.

It is accordingly provided that the interest of the Crown in all Crown lands, mines, minerals (precious and base) and royalties derived therefrom within the province, and all sums due or payable for such lands, mines, minerals or royalties shall, from and after the coming into force of the agreement and subject as therein otherwise provided, belong to the province, subject to any trust existing in respect thereof, and to any interest other than that of the Crown in the same. Any remittance received by Canada in respect of any such lands, mines, minerals, or royalties, before the coming into force of the agreement shall continue to belong to Canada whether paid in advance or otherwise. On the other hand, the province is not liable to account to Canada for any such payment made thereafter.

The province is bound in each case to carry out, in accordance with the terms thereof, any contract of purchase or lease of any Crown land, mines or minerals, and every arrangement whereby any person has become entitled to any interest therein as against the Crown. The province is also engaged to perform every obligation of Canada arising by virtue of any statute, Order in Council or regulation in connection with railway subsidies or grants to railway companies of lands for right of way, road-bed, stations, station-grounds, workshops, buildings, yards, ballast pits or other appurtenances.

Canada is under obligation to transfer to the province all School Lands Funds. Such of the school lands specified in the Dominion Lands Act (R.S.C. 1927, c. 113, s. 37) as passed to the administration of the province are to be set aside and to be administered by the province "in accordance, *mutatis mutandis,* with the provisions of sections 37 to 40 of the Dominion Lands Act, for the support of schools organized and carried on therein in accordance with the law of the province".

Province.	Date of Agreement.	Date of Transfer of Resources.
Manitoba	Dec. 14, 1929	July 15, 1930
Saskatchewan	Mar. 20, 1930	Oct. 1, 1930
Alberta	Dec. 14, 1929	Oct. 1, 1930
British Columbia (lands in Railway Belt and Peace River Block)	Feb. 20, 1930	Aug. 1, 1930

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[1] Revised by J. W. Martin, Commissioner of Dominion Lands, Department of the Interior.

Homestead Entries.—Table **1** gives the number of homestead entries and cancellations in the fiscal years from 1874 to 1931, providing a record of the growth of settlement in the Prairie Provinces. From 7,426 in 1900 the number of entries rose rapidly to 41,869 in 1906, declined to 21,647 in 1907, and rose again to more than twice that number in 1911. The largest number of " net " entries was made in 1906, when new entries exceeded cancellations by over 30,000. The record number of 44,479 entries in 1911 was offset by 22,122 cancellations, leaving " net " entries of 22,357. It is noteworthy that more homestead entries were made in 1930 than in any other year since 1915.

The number of grants made to soldiers during each of the fiscal years ended Mar. 31, 1919 to 1931, was 1,643, 5,981, 2,892, 1,655, 1,212, 710, 584, 576, 468, 504, 742, 720 and 506 respectively. Entries by soldiers cancelled in the years 1919 to 1931 are included with those given in Table **1**. Such cancellations from 1924 to 1931 numbered 630, 615, 510, 574, 819, 624, 746 and 363 respectively.

1.—Number of Homestead Entries and Number of Homestead Cancellations from 1874 to Mar. 31, 1931.[1]

Note.—From 1874 to 1894 the departmental years ended Oct. 31; from 1895 to 1899, Dec. 31; from 1900 to 1906, June 30; from 1907, Mar. 31.

Year.	Homesteads.		Year.	Homesteads.		Year.	Homesteads.	
	Number of Entries.	Number Cancelled.		Number of Entries.	Number Cancelled.		Number of Entries.	Number Cancelled.
1874	1,376	889	1893	4,067	899	1912	39,151	18,486
1875	499	303	1894	3,209	648	1913	33,699	17,101
1876	347	153	1895	2,394	683	1914	31,829	15,854
1877	845	457	1896	1,857	301	1915	24,088	12,351
1878	1,788	1,377	1897	2,384	1,090	1916	17,030	10,070
1879	4,068	2,045	1898	4,848	1,546	1917	11,199	9,570
1880	2,074	679	1899	6,689	1,746	1918	8,319	6,314
1881	2,753	937	1900	7,426	1,096	1919	4,227	4,115
1882	7,483	3,485	1901	8,167	1,682	1920	6,732	7,891
1883	6,063	1,818	1902	14,633	3,296	1921	5,389	7,336
1884	3,753	1,330	1903	31,383	5,208	1922	7,349	7,806
1885	1,858	597	1904	26,073	8,702	1923	5,343	7,061
1886	2,657	812	1905	30,819	11,296	1924	3,843	4,187
1887	2,036	459	1906	41,869	11,637	1925	3,653	4,171
1888	2,655	668	1907	21,647	14,110	1926	4,685	3,400
1889	4,416	639	1908	30,424	15,668	1927	5,760	5,809
1890	2,955	794	1909	39,081	14,677	1928	7,233	7,315
1891	3,523	934	1910	41,568	16,832	1929	16,157	6,632
1892	4,840	1,322	1911	44,479	22,122	1930	17,504	6,838
						1931[1]	10,984	3,827

[1] The fiscal year ended Mar. 31, 1931, includes only the period from Mar. 31, 1930 to Oct. 1, 1930, on which date the control of Crown lands in the western provinces was turned over to the respective Provincial Governments.

Table **2** is a statement of the homestead entries on Dominion lands in the years 1922 to 1931. Statistics of the origin of those making homestead entries in the fiscal years ended 1925 to 1931 are given in Table **3**, and financial statistics of receipts from Dominion lands in Table **4**.

The privilege of making pre-emptions or purchased homestead entries was withdrawn by Order in Council as from Mar. 20, 1918, confirmed by c. 19 of the Statutes of 1918, assented to May 24, 1918.

2.—Homestead Entries on Dominion Lands in Manitoba, Saskatchewan, Alberta and British Columbia, fiscal years ended Mar. 31, 1922-1931.[1]

Province.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.[1]
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Manitoba	1,488	879	632	464	616	797	688	643	727	454
Saskatchewan	2,733	2,104	1,699	1,804	2,363	2,702	2,961	5,808	6,089	2,834
Alberta	2,928	2,207	1,347	1,192	1,556	2,145	3,411	8,933	9,795	7,122
British Columbia	200	153	165	193	150	116	173	773	893	574
Totals	**7,349**	**5,343**	**3,843**	**3,653**	**4,685**	**5,760**	**7,233**	**16,157**	**17,504**	**10,984**

[1] See note to Table **1**, p. 1020.

Table **3** is a statement of the nationalities of persons making homestead entries in the fiscal years 1925-31. The last item "Second homesteads" relates to second homesteads taken up, under an amendment made to the Dominion Lands Act in 1928, by Canadians who have already secured homestead entries on Dominion lands and are British subjects, either by birth or by naturalization.

3.—Homestead Entries in Manitoba, Saskatchewan, Alberta and British Columbia, by Nationalities, fiscal years ended Mar. 31, 1925-1931.[1]

Nationality.	1925.	1926.	1927.	1928.	1929.	1930.	1931.[1]
	No.	No.	No.	No.	No.	No.	No.
Canadians from Ontario	377	424	491	550	818	817	550
" Quebec	127	160	230	453	530	468	369
" Nova Scotia	43	31	59	63	83	92	51
" New Brunswick	17	37	32	29	72	44	29
" Prince Edward Island	38	13	27	37	31	47	16
" Manitoba	263	341	408	407	696	670	409
" Saskatchewan	138	229	333	382	766	882	537
" Alberta	92	117	217	305	517	663	592
" British Columbia	29	29	32	42	90	64	61
" Yukon Territory	–	–	–	–	–	3	–
Persons who had previous entry	636	696	806	947	1,536	2,066	1,398
Newfoundlanders	3	1	–	3	5	12	6
United States Nationals	627	842	874	955	1,357	1,294	755
English	321	388	477	494	727	679	437
Welsh	–	–	–	–	38	54	26
Scotch	113	113	126	179	271	224	184
Irish	45	52	59	61	137	146	84
French	12	18	18	50	49	34	16
Belgians	11	18	29	27	36	24	6
Swiss	20	18	17	32	65	38	31
Italians	10	20	15	9	14	18	9
Roumanians	12	40	45	65	109	101	81
Syrians	1	3	1	4	1	2	3
Germans	41	72	60	188	385	495	350
Austro-Hungarians[2]	267	–	–	–	–	–	11
Austrians	–	359	479	403	408	450	251
Hungarians	–	74	123	163	250	208	101
Hollanders	10	13	24	45	59	52	35
Danes	30	37	53	84	160	179	81
Icelanders	18	12	5	14	5	8	4
Swedes	80	93	99	159	230	240	127
Norwegians	82	92	147	289	367	364	189
Russians	133	192	241	282	463	460	452
Finns	15	36	35	25	37	43	34
Chinese	–	–	2	–	8	2	–
Australians	–	–	2	2	4	2	1
New Zealanders	–	1	–	1	1	1	3
Greeks	3	14	–	1	1	1	–
Hindus	1	–	1	–	7	4	2
Poles	31	75	148	353	871	1,384	1,105
Bulgarians	2	5	1	1	2	3	–
Yugoslavs	–	5	12	18	49	41	31
South Americans	–	2	–	1	2	3	1
Czechoslovakians	–	7	25	60	150	126	117
South Africans	–	3	–	5	1	3	1
Mexicans	–	–	–	2	3	1	1
British Indians	–	–	–	14	–	–	–
Ukrainians	–	–	–	22	–	–	–
Other nationalities	5	3	7	7	55	40	47
Second homesteads	–	–	–	–	4,691	4,952	2,390
Totals	**3,653**	**4,685**	**5,760**	**7,233**	**16,157**	**17,504**	**10,984**

[1] See note to Table **1**, p, 1020. [2] Austrians and Hungarians were not separated prior to 1926.

4.—Dominion Lands Revenue for the fiscal years ended Mar. 31, 1924-1930.

Source of Receipts.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$	$	$
Homestead fees	38,640	36,500	46,900	57,700	72,551	161,890	175,080
Cash sales	404,952	410,222	467,601	544,874	732,324	785,661	428,104
Script sales	160	612	–	–	–	–	27
Timber dues	847,773	981,400	1,098,692	1,190,975	1,388,140	1,395,726	1,131,024
Hay permits, mining, stone quarries, etc., cash	723,763	639,749	793,358	1,084,695	963,164	1,197,890	1,816,955
All other receipts	338,559	425,384	473,646	540,310	607,230	611,112	698,683
Gross revenue	2,353,847	2,493,867	2,880,197	3,418,554	3,763,409	4,152,279	4,249,893
Refunds	71,983	102,881	76,684	91,280	74,334	81,940	110,762
Net revenue	2,281,864	2,390,986	2,803,513	3,327,273	3,689,075	4,070,339	4,139,131
Totals, 1872 to date	**78,841,445**	**81,232,431**	**84,035,944**	**87,363,218**	**91,052,293**	**95,122,632**	**99,261,763**
Letters patent for Dominion lands.....No.	5,317	4,304	5,484	5,543	5,490	6,015	5,997
Homestead entries....... "	3,843	3,653	4,685	5,760	7,233	16,157	17,504

Railway Lands.[1]—In the early stages of the settlement of the Northwest, large grants of wild lands were made to the railway companies as subsidies (see Table **13** of the chapter on Transportation for details, p. 665 of this volume), while the Hudson's Bay Co., under the contract by which the Northwest Territories passed to the Dominion, retained one-twentieth of the lands of the fertile belt. Statistics have been compiled of the sales of land by these companies and the prices at which lands were sold in the fiscal years since 1893, the figures given in Table **5** throwing considerable light on the ups and downs in the settlement of the West. The maximum acreage was sold in 1903, and the maximum amount was received in 1918. It is noteworthy that the sales reached a low point for recent years in 1923, and in 1929 were almost seven times those for 1923, while in 1930 they dropped off again. Details of sales by the different companies are given for the three latest fiscal years in Table **6.** Their total sales since 1893 were 29,062,436 acres and the total amount received $274,866,069, or an average of $9.46 per acre.

5.—Land Sales by Railway Companies with Government Land Grants, and by the Hudson's Bay Company, fiscal years ended 1893-1930.

Year.	Total Sales.		Average Price per Acre.	Year.	Total Sales.		Average Price per Acre.
	Acres.	Amount.			Acres.	Amount.	
		$	$			$	$
1893	120,211	352,847	2·93	1912	1,329,390	18,224,419	13·70
1894	68,668	207,856	3·02	1913	707,149	9,867,155	13·95
1895	114,713	222,489	1·94	1914	501,575	7,398,191	14·75
1896	108,016	361,338	3·34	1915	192,801	3,279,031	17·01
1897	222,225	719,016	3·23	1916	354,886	5,435,949	15·32
1898	448,623	1,431,774	3·18	1917	755,154	12,357,377	16·35
1899	462,494	1,520,792	3·28	1918	1,116,237	20,887,600	18·71
1900	648,379	2,125,146	3·27	1919	1,038,657	18,148,736	17·47
1901	621,027	2,088,269	3·36	1920	1,026,157	19,188,225	18·69
1902	2,201,795	7,746,958	3·56	1921	553,630	10,860,756	19·61
1903	4,229,011	14,651,757	3·46	1922	155,239	2,633,572	16·96
1904	1,267,187	5,564,240	4·39	1923	123,303	1,864,364	15·12
1905	990,005	5,046,572	5·09	1924	159,795	2,460,057	15·39
1906	1,612,684	9,871,241	6·01	1925	247,405	3,700,938	14·95
1907[2]	1,237,759	7,697,930	6·02	1926	457,822	5,594,216	13·01
1908	346,693	3,052,461	8·80	1927	666,479	8,295,685	12·45
1909	109,373	2,211,885	11·08	1928	783,604	9,259,759	11·82
1910	1,184,790	15,835,228	13·36	1929	859,769	9,858,688	11·46
1911	1,406,651	19,122,937	13·59	1930	563,080	6,360,615	11·30

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[1] Revised by F. C. C. Lynch, Director, National Development Bureau, Department of the Interior.

[2] Nine months to Mar. 31.

6.—Land Sales by Railway Companies with Government Land Grants, and by the Hudson's Bay Company, by Companies, fiscal years ended Mar. 31, 1928-30.

Company.	1928.		1929.		1930.	
	Acres.	Amount.	Acres.	Amount.	Acres.	Amount.
		$		$		$
Hudson's Bay Co.	289,713	3,546,598	289,903	3,349,574	215,992	2,090,472
Canadian Pacific Railway Co	387,034	4,349,779	447,594	4,902,593	255,151	3,145,513
Manitoba Southwestern Colonization Railway Co.	4,910	46,256	8,266	61,134	6,892	49,478
Qu'Appelle, Long Lake and Saskatchewan Railroad and Steamboat Co.	7,888	93,833	5,393	73,201	7,727	32,908
Calgary and Edmonton Railway Co.	17,162	205,693	17,628	199,975	6,039	68,378
Canadian Northern Railway Co.	67,714	921,018	83,507	1,189,833	67,466	934,900
Great Northern Central Railway Co.	9,183	93,582	7,478	82,378	3,813	38,966
Totals	**783,604**	**9,259,759**	**859,769**	**9,858,688**	**563,080**	**6,360,615**

Subsection 2.—Provincial Public Lands.[1]

In the Maritime Provinces, in Quebec, Ontario and British Columbia, (except the Railway Belt and the Peace River Block), the public lands have been administered by the Provincial Governments since Confederation. With the transfer of the natural resources to the Prairie Provinces and British Columbia, as outlined in Subsection 1, public lands in all provinces are now under provincial administration. In Prince Edward Island all the land is settled.

Nova Scotia.—All provincial legislation regarding Crown lands and forests is governed by an Act passed in 1926, called the Lands and Forests Act. The total area of the Crown lands in Nova Scotia is approximately 2,319,378 acres.

Crown land can only be granted to applicants of not less than 18 years of age, desiring the land for their own benefit and for the purpose of actual settlement, and for agricultural or grazing purposes, the grant in each case not exceeding 150 acres. The price of such land is $1 per acre in addition to the expense of surveying. The applicant only obtains a grant of the land if he, two years from the date he has taken possession thereof, has built a house thereon; has resided upon the said land for not less than three successive years; and has cultivated not less than ten acres of land thereof.

Crown land may be leased if the land is of inferior quality, and if the person proposing to lease same undertakes to expend money in draining, dyking or developing such land. Lands may also be leased if the person proposing to lease same undertakes to expend money in the erection of mills and machinery for the manufacture of wood products or pulp. Grants and leases are signed by the Governor in Council.

The Minister of Lands and Forests may grant licences to cut timber on the ungranted land of the Crown, on payment of such dues as may be in his discretion. The cutting licences are subject to regulations and restrictions prescribed by the Governor in Council.

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[1] Revised by the officers of the respective Provincial Administrations. For copies of the detailed regulations governing the disposal of provincial Crown lands, application should be made as follows: Nova Scotia, to the Minister of Lands and Forests, Halifax; New Brunswick, to the Deputy Minister of Lands and Mines, Fredericton; Quebec, to the Deputy Minister of Lands and Forests, Quebec; Ontario, to the Minister of Lands and Forests, Parliament Buildings, Toronto; Manitoba, to the Director of Lands, Department of Mines and Natural Resources, Winnipeg; British Columbia, to the Deputy Minister of Lands, Victoria.

New Brunswick.—The area of New Brunswick is about 17,863,000 acres. Of this the Crown holds about 7,500,000 acres, most of which is timber land. The province is essentially a wooded country, and will in all probability always derive a large part of its revenue from forest industries. Practically all the Crown timber lands are held by licence for the cutting of timber, most of these licences expiring in 1933, subject to a renewal for an additional 10 years; or pulp or paper licences may be issued for a term of up to 50 years where the licensees have undertaken to erect or enlarge pulp or paper mills within a specified period. While it may safely be said that the bulk of the Crown lands are better suited to lumbering than agriculture, yet there are still some Crown lands well suited to mixed farming, which may be taken up by prospective settlers. The maximum allowed to any one settler is 100 acres, and he is required to reside on the land three years and cultivate ten acres of the same before obtaining a grant. For some of the best lands there is a charge of $1 per acre, in addition to the settlement duties already referred to. This may be paid in four annual instalments. The Provincial Government controls hunting throughout the province and angling in non-tidal waters within the province. Fishing in tidal waters is, however, under the control of the Dominion Government.

Quebec.—In Quebec the area of public lands subdivided and unsold on June 30, 1929, was 8,327,192 acres. During the year ended June 30, 1930, 179,859 acres were surveyed; 121,461 acres reverted to the Crown; 164,696 acres were granted for agricultural and industrial purposes, etc.; adding to the acreage available at June 30, 1929, the area surveyed and the areas that reverted, and deducting sales and grants, there remained subdivided and unsold on June 30, 1930, 8,463,816 acres. Agricultural lands in 100-acre lots are available for settlement upon prescribed conditions at 60 cents per acre, on application to the Department of Colonization, Game and Fisheries.

Ontario.—Public lands in the province of Ontario are administered by the Department of Lands and Forests, Parliament Buildings, Toronto.

In Old Ontario, that is that part of the province below the French river and lake Nipissing, which comprises an area of approximately 77,000 square miles, there are still available for the settler public lands suitable for agriculture, but the bulk of the good agricultural land vested in the Crown is in northern Ontario, which has an area of 330,000 square miles. The suitable lands in southern Ontario are chiefly situated in Muskoka and Parry Sound districts and in the counties of Haliburton, Peterborough, Hastings, Frontenac, Lennox and Addington, and Renfrew. In northern Ontario the suitable lands are in Nipissing, Timiskaming, Cochrane, Sudbury, Algoma, Thunder Bay, Kenora, and Rainy River districts.

The Department maintains Crown Land Agencies at different points throughout the districts in which the Crown lands are available for supervision of the settlement of the lands and for the receiving of applications and other duties in connection therewith. A list of the Agents, giving their respective addresses, is found in a Departmental booklet entitled " Settlers' Lands in Ontario", copies of which may be obtained on request from the Department at Toronto.

In northern Ontario the townships which are open for sale are subdivided into lots of 160 acres each, with the exception of Cochrane and Timiskaming districts, where the area to which an individual is entitled is 80 acres.

Conditions under which sale lands throughout the province may be obtained involve personal residence for at least 6 months in each year; payment of one-quarter of the purchase price, which is 50 cents per acre, with the application, the remainder being spread over three years with interest at 6 p.c.; and the clearing and cultivation of a prescribed acreage in addition to the construction of the necessary habitations. Proxy regulations enable an individual to purchase a lot of 160 acres and place an agent in residence, but the duties in such case to be performed before the issue of patent are double those required in ordinary purchases. When a purchaser has completed his duties, made payment in full, and obtained his patent, he may make application for an additional parcel in some cases, for which a further patent may be obtained, for pasture purposes, and there is no necessity to construct additional buildings on the additional parcel provided the applicant is in residence on and cultivating the parcel already patented.

Free grant land is available in certain sections of the province. These lots consist also of 160 acres for the most part. No purchase money is required, but the following duties must be completed: 15 acres to be cleared and under cultivation; house to be erected with dimensions of at least 16 ft. x 20 ft.; actual and continuous residence on the land from time of location to issue of patent; mines and minerals and timber other than pine go with patent. Returned soldiers, on production of discharge certificates, may make application and sale lands can be allowed to them under free grant conditions.

Public lands may also be leased or the use of the same be obtained under licence of occupation for specific terms at nominal rates for sheep raising, ranching and other purposes.

Many fine sites are available for the erection of summer homes and for the enjoyment of summer pastimes. The Department issues a booklet entitled "Summer Homes in Ontario" dealing with this subject. Copies may be obtained on application to the provincial authorities.

To assist settlers in the northern part of the province, the Department of Northern Development, through the Settlers' Loan Commissioner, makes advances up to $500 to settlers to enable them to purchase stock and seed and to improve the property. Information with respect to these loans may be obtained direct from the Settlers' Loan Commissioner at Toronto.

The Department of Northern Development, which comes under the Minister of Lands and Forests, administers the roads in northern Ontario, which now total approximately 15,000 miles. Inquiries with respect to these roads should be directed to the Deputy Minister of Northern Development at Toronto. Each year this Department constructs new roads at the average rate of one mile per day, and in the sections served by these roads there are still available, in addition to the free grant lands already mentioned, millions of acres of suitable land which can be purchased by *bona fide* settlers at 50 cents per acre.

Manitoba.—The Provincial Government of the province of Manitoba has control of approximately ten million acres of unsold land, of which one million consists of school lands. The greater portion of these lands was recently transferred to the province by the Dominion Government; a considerable part of them is situated in the eastern section, the inter-lake area, and west and northwest of lake Manitoba.

Intending settlers and others are afforded the choice of selecting from this unsold area lands suitable for grain crop, mixed farming or stock raising; and for the purpose of placing the lands within easy reach of all, the terms of sale have been set at 10 p.c. cash, balance over a period of 10 years, with interest at 6 p.c. Much of this land is situated within reasonable distance from rail facilities and in organized communities, thereby affording splendid opportunities to prospective purchasers.

Large areas of these lands, particularly in the northern section of the province, are ideal for grazing purposes on a large scale. Intending ranchers may lease large tracts up to 10,000 acres, over a period of years, at 4 cents per acre. This industry has been sadly neglected in recent years, and now affords excellent opportunities to prospective ranchers. The Provincial Government also possesses large areas of marsh lands particularly adapted to muskrat farming, an industry which is now becoming firmly established in Manitoba by reason of the very favourable climatic conditions and abundant supply of the various roots and grasses upon which the muskrat thrives. These areas may be leased but not sold. The length of lease may be arranged to suit the lessee. The province also controls a few partly improved properties which may be purchased on very easy terms. These lands are situated in the better farming districts.

The province controls very attractive recreational areas in the eastern and northern sections, within easy reach of motor highways. These summer resort areas may be either purchased or leased on very attractive terms.

For further particulars application should be made to the Director of Lands, Law Courts Building, Winnipeg, Manitoba.

Saskatchewan.—The Provincial Government of the province of Saskatchewan has control of approximately seventeen million acres of surveyed lands. Forests and timber berths comprise nearly seven million acres. Grazing lands consist of about three and one-half million acres. There are two million acres of unsold school lands and at least three million acres available for provincial land settlement.

Intending settlers in the province of Saskatchewan must be British subjects by birth or by naturalization or through the naturalization of the father. Residence in the province of Saskatchewan for a term of at least four years is a necessary condition of eligibility for entry. Provincial land settlement entries are disposed of under easy terms of payment. The terms of the sale have been set at 10 p.c. cash and the balance is payable over a period of twelve years with interest at 6 p.c. The minimum price is $1 per acre. The greater part of the provincial lands are situated in the parts of the province north of Township 36. Residence for a term of four months in each of three years, and at least twenty acres of breaking must be performed for the settlement entry. A habitable dwelling of a value of not less than $60 must be erected on the land for which entry was made.

Lands which are suitable for grazing purposes only are disposed of under grazing lease, but, if the area is less than one section, such area is disposed of under the regulations as pasture lands and the minimum price is set at $1 per acre. Pasture lands are only sold to settlers in the immediate vicinity.

Provisions are made for disposal of areas for fur farming purposes and a considerable industry has grown up in this province, particularly in respect of muskrat farming. Water areas with the adjoining land necessary for the purpose of fur farming, to the extent of not more than six hundred and forty acres, may be leased for this purpose. A fee of $10 must accompany each application for a fur-farm lease. The annual rental for the first three years is twenty-five cents per acre of the combined land and water area and for the remainder of the term the rental is fifty cents per acre.

The forest and timber berth areas in the northern part of the province are of very considerable extent and there is much merchantable timber available for disposal through the Forestry Branch of the Department of Natural Resources. The water areas in the province consist of more than two million acres. The water powers are located chiefly in the northern part of the province. There is a Fisheries Branch, in charge of a competent supervisor, in the Department of Natural Resources. There are considerable coal areas in the southern part of the province; and there is an abundant supply of all kinds of minerals, solid, liquid, and gaseous, in the northern part of the province. The mining industries are in their infancy in this province but prospectors have definitely established the fact that much petroleum and natural gas is present throughout the provincial area.

Applications for further particulars should be made to the Deputy Minister, Department of Natural Resources, Regina, Saskatchewan.

Alberta.—At the time of going to press it has not been possible to secure a statement regarding the regulations under which settlers may obtain lands in the province of Alberta. The reader is referred in this connection to the Deputy Minister, Department of Lands and Mines, Parliament Buildings, Edmonton, Alta.

British Columbia.—In British Columbia there are large areas of free grant lands. Any British subject, being the head of a family, a widow, a *femme sole* who is over 18 years of age and self-supporting, a woman deserted by her husband or whose husband has not contributed to her support for 2 years, or a bachelor over 18 years of age, or any alien, on making a declaration of his intention to become a British subject, may pre-empt, free, 160 acres of unoccupied and unreserved surveyed Crown lands, not being an Indian settlement and not carrying more than 8,000 feet per acre of milling timber west of, and 5,000 feet per acre east of the Cascade range Fees payable include $2 for recording, $2 for certificate of improvement and $10 for Crown grant. Residence and improvement conditions are imposed, and land can only be pre-empted for agricultural purposes. After occupation for 5 years and making improvements to the value of $10 per acre, including clearing and cultivation of at least 5 acres, the pre-emptor may obtain certificate of improvement and Crown grant. The fact that an applicant has previously homesteaded in another province does not preclude him from pre-empting in British Columbia. Unsurveyed lands cannot be pre-empted.

Homesite leases of an area not exceeding 20 acres, surveyed or unsurveyed, may be obtained for occupation and cultivation—this being a provision to enable fishermen, miners or others to obtain homesites—at a small rental, under improvement conditions, including the building of a dwelling in the first year, title being procurable after 5 years' occupation and completion of survey.

Under the Land Act, vacant and unreserved Crown lands, surveyed or unsurveyed, may be purchased in quantities not exceeding 640 acres for agricultural purposes on improvement conditions. The Minister may require improvements to the value of $5 per acre within 4 years of allowance of the sale, and Crown grant may be withheld until it is certified that improvements are made. The minimum price of first class (agricultural) lands is $5 per acre; second class (grazing) lands $2.50 per acre. The purchaser of surveyed land is charged an additional 50 cents an acre for the survey; in the case of unsurveyed lands the applicant must have the area he applies for surveyed at his own cost.

Crown lands are leased, subject to covenants and agreements deemed advisable, for agricultural or industrial purposes—for hay-cutting up to 10 years; for other purposes, except timber-cutting, up to 21 years; for any industrial or other special purpose, with approval of the Lieutenant-Governor in Council, for not over 99 years.

The Land Settlement Board has selected a number of land settlement areas contiguous to the Canadian National and Pacific Great Eastern Railways. Lands within these areas are sold on easy terms for farming purposes, conditional upon development, prices being usually from $3 to $10 an acre, a small cash payment being required and the balance spread over a term of years to suit the purchaser. British Columbia returned soldiers are entitled to abatement of $500 on purchase price. The Board has power to order those owning land within an area to improve it, and to levy a penalty tax for failure, also power to procure compulsory sale of undeveloped land.

Timber-cutting rights are acquired by timber sale. The applicant locates the timber, and, application being made, the area is cruised, surveyed if necessary, and advertised for sale by tender. All particulars are obtainable from the Forest Branch, Department of Lands. Information regarding water rights for power, irrigation, etc., may be obtained by addressing the Water Rights Branch, Department of Lands.

The Railway Belt and Peace River Block were transferred to the Provincial Government on Aug. 1, 1930, so that the area of land administered by the province is now 238,469,600 acres,[1] of which about 11,000,000 acres have been alienated; about 11,000,000 acres are under reserve as timber, coal, grazing and other leases and licences; and about 13,000,000 in timber, park, Indian, game and other reserves. The total area surveyed at Dec. 31, 1929, was 33,356,671 acres, including 22,921,487 acres of land surveys, 9,147,176 acres of timber, 686,111 acres of coal lands, 28,548 acres of phosphate licences and 603,375 acres of mineral claims. The area included in cities is 73,950 acres, in district municipalities 906,753 acres, and in village municipalities 5,058 acres.

The area of the province is 238,469,600 acres,[1] of which 92,800,000 acres is above timberline and 91,432,100 acres is forested—39,352,000 acres carrying over 1,000 ft. b.m. per acre and 17,281,600 acres from 5,000 to 30,000 ft. b.m. per acre. The area suitable for agriculture is estimated at 22,618,000 acres. On Vancouver island an area of 2,110,054 acres is included in the Esquimalt and Nanaimo Railway land grant, embracing the southeastern portion of the island, and applications for lands in this area are to be made to the land agent of that railway at Victoria.

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[1] As estimated by the provincial authorities. The Dominion estimate of the area of British Columbia is 227,747,200 acres, of which 3,766,400 acres are covered by water.

Section 2.—National Defence.[1]

Before the outbreak of the war, the Canadian Militia consisted of a Permanent Force, which on Mar. 31, 1914, numbered 3,000 officers, non-commissioned officers and men, and an Active Militia, which at the same date numbered 5,615 officers and 68,991 non-commissioned officers and men. After the outbreak of the war on Aug. 4, 1914, successive contingents of troops of all arms were recruited, equipped, trained and dispatched by the Canadian Government to Great Britain for active service. When hostilities ceased on Nov. 11, 1918, there had been sent overseas, for active service in the Canadian Expeditionary Force, about 418,000 officers, non-commissioned officers and men.[2]

Organization.—Prior to 1922, three departments of the Canadian Government were concerned with the defence of Canada, *viz.*:—the Department of Militia and Defence; the Department of Marine and Naval Service; the Air Board.

During the Session of 1922, the National Defence Act was passed, consolidating the Naval Service, the Air Board and the Department of Militia and Defence into the Department of National Defence. This Act became effective by proclamation on Jan. 1, 1923. Under it there is a Minister of National Defence and a Deputy Minister of National Defence. To advise the Minister there has been constituted, by Order in Council, a Defence Council consisting of a President (the Minister), a Vice-President (the Deputy Minister), and the following members:—the Chief of the General Staff, the Chief of the Naval Staff, together with the Adjutant-General, the Quartermaster-General and the Director, Royal Canadian Air Force, as associate members. There is also a Secretary of the Council.

Subsection 1.—Military Forces.

The Militia of Canada is constituted by the Militia Act. The Active Militia is divided into the Permanent and the Non-Permanent Militia.

Permanent Militia.—The Permanent Force consists of the following units:—

Cavalry.—The Royal Canadian Dragoons; Lord Strathcona's Horse (Royal Canadians).
Artillery.—The Royal Canadian Horse Artillery Brigade ("A", "B" and "C" Batteries); Royal Canadian Artillery (Nos. 1, 2, 4 and 5 Heavy Batteries and No. 3 Medium Battery).
Engineers.—Royal Canadian Engineers (13 detachments).
Signals.—The Royal Canadian Corps of Signals.
Infantry.—The Royal Canadian Regiment; Princess Patricia's Canadian Light Infantry; The Royal 22e Regiment (a French-Canadian regiment).
Army Service Corps.—The Royal Canadian Army Service Corps (12 detachments).
Medical Corps.—The Royal Canadian Army Medical Corps (12 detachments).
Veterinary Corps.—The Royal Canadian Army Veterinary Corps (8 detachments).
Ordnance Corps. The Royal Canadian Ordnance Corps (12 detachments).
Pay Corps.—The Royal Canadian Army Pay Corps (12 detachments).
Military Clerks.—The Corps of Military Staff Clerks (12 detachments).

The strength of the Permanent Active Militia is limited by the Amending Act of 1919 to 10,000, but at present the limited establishment is less than 3,800.

Schools of Instruction.—The Canadian Small Arms School is the only school which is an independent unit of the Permanent Force, but at all stations of the Permanent Force in Canada there are conducted Royal Schools of Instruction.

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[1] Revised by H. W. Brown, Asst. Deputy Minister, Department of National Defence.

[2] For the detailed expenditures of the Canadian Government on account of war appropriations in the fiscal years 1915-1921, see the Canada Year Book, 1921, p. 798.

Non-Permanent Militia.—The Non-Permanent Militia consists of:—

35 Regiments of Cavalry and Mounted Rifles.
68 Field Batteries, Canadian Artillery.
13 Medium Batteries, Canadian Artillery.
11 Heavy Batteries, Canadian Artillery.
3 Anti-Aircraft Sections, Canadian Artillery.
15 Field Companies of Engineers.
2 Fortress Companies of Engineers.
7 Field Troops of Engineers.
10 Divisional Signals.
2 Fortress Signal Companies.
7 Signal Troops.
21 Contingents, Canadian Officers Training Corps.
15 Machine Gun Units.
113 Battalions of Infantry.
12 Divisional Trains, Canadian Army Service Corps.
51 Units of the Canadian Army Medical Corps.
11 Detachments of Canadian Army Veterinary Corps.
11 Detachments of the Canadian Dental Corps.
11 Detachments of the Canadian Ordnance Corps.
12 Detachments and 1 Base Post Office of the Canadian Postal Corps.

The total establishment of the Non-Permanent Militia is 9,050 officers and 116,545 other ranks, as shown in the following table.

7.—Permanent and Non-Permanent Active Militia in Canada, 1930.

Arm of Service.	Permanent Active Militia.		Non-Permanent Active Militia.	
	Personnel.	Horses.	Personnel.	Horses.
	No.	No.	No.	No.
Staff and General List	18	–	–	–
Cavalry and Mounted Rifles	415	277	12,802	7,439
Field Artillery	409	152	9,236	4,936
Medium Artillery	51	–	1,600	830
Heavy Artillery and Anti-aircraft Sections	232	2	1,426	45
Engineers	271	16	3,421	812
Signals	357	–	4,576	2,220
Railway Corps	–	–	373	–
Infantry	853	35	75,077	87
Officers' Training Corps	–	–	4,329	–
Machine Gun Corps	–	–	6,515	744
Army Service Corps	269	48	1,245	310
Non-Combatants	891	–	4,995	688
Totals	**3,766**	**530**	**125,595**	**18,111**

Reserve Militia.—In addition to the Active Militia, there is also the Reserve Militia, a framework designed to serve as a basis for contingent military organization. Drill and training are voluntary and entail no expense to the public.

The reserve formations of the Active Militia, as distinguished from the Reserve Militia mentioned above, comprise:—

The Reserve of Officers (general list).
Reserve unit for each active unit.
Reserve Regimental Depots (Cavalry and Infantry).

The reserve units of the Active Militia are intended for the purpose of providing for the organization of the officers and men who have completed their service in the Active Militia or who have otherwise received a military training.

On completion of service in the Active Militia men are not posted automatically to reserve units. These units are recruited by specific enlistment.

Military Districts.—For the command, training and administration of the Canadian Militia, Canada is divided into 11 military districts, each under a commander assisted by a district staff.

Militia Appropriations.—The Militia appropriations for the six fiscal years ended Mar. 31, 1926-1931, are shown in Table **8.**

8.—Money Voted by Parliament for the Militia, fiscal years ended Mar. 31, 1926-31.

Item.	1926.	1927.	1928.	1929.	1930.	1931.
	$	$	$	$	$	$
Administration	325,000	325,000	341,000	349,000	349,000	345,000
Cadet Services	400,000	400,000	500,000	500,000	500,000	500,000
Contingencies	33,000	32,000	43,000	44,000	44,000	44,000
Engineer Services and Works	566,000	566,000	803,900	830,000	830,000	830,000
General Stores	461,000	462,000	682,799	988,800	988,800	1,000,300
Manufacturing Establishments	420,000	420,000	472,395	587,000	587,000	587,000
Non-Permanent Active Militia	1,712,000	1,712,000	2,059,800	2,309,000	2,301,100	2,324,500
Permanent Force	4,860,000	4,860,000	4,887,500	5,038,000	5,045,900	5,011,000
Royal Military College	365,000	365,000	365,000	375,000	375,000	375,000
Topographic Survey	35,000	35,000	40,000	45,000	45,000	45,000
Totals	**9,177,000**	**9,177,000**	**10,195,394**	**11,065,800**	**11,065,800**	**11,061,800**
Civil Government	736,701[1]	763,889[1]	808,010[1]	800,505[1]	850,755[1]	849,860[1]
Grand Totals	**9,913,701**	**9,940,889**	**11,003,404**	**11,866,305**	**11,916,555**	**11,911,660**

[1] Department of National Defence.

Subsection 2.—The Naval Service.

The Naval Service of Canada was established by the Naval Service Act, 1910 (9-10 Edw. VII, c. 43), the main provisions of which were described in the Year Book of 1910, pp. xxvi-xxix.

The Department of Naval Service was amalgamated with the Department of Militia and Defence and the Canadian Air Board, to form the Department of National Defence, in 1922.

The Royal Canadian Navy and its Reserve Forces are under the direction of the Chief of the Naval Staff, who is a member of the Defence Council. The Service consists of:—

1. Headquarters at Ottawa (permanent).
2. Royal Canadian Navy (permanent).
3. Royal Canadian Naval Reserve (non-permanent).
4. Royal Canadian Naval Volunteer Reserve (non-permanent).

Royal Canadian Navy.——The Royal Canadian Navy has an authorized complement of 104 officers and 792 ratings. A large majority of the men of the R.C.N. are serving under 7-years' engagements. A small proportion consists of specialist gunnery, torpedo, and engine room ratings, lent from the Royal Navy, and a small proportion are ex-petty officers of the Royal Navy and men serving under special service engagements of from one to five years.

A proportion of the officers of the Royal Canadian Navy serves periodically in ships of the Royal Navy, to acquire experience in capital ships, light cruisers, etc., and training courses are arranged for selected officers at the instructional schools of the Royal Navy to qualify in war staff, gunnery, torpedo, wireless, and other duties. Courses for selected men in the gunnery, torpedo, wireless telegraphy, and mechanical training schools of the Royal Navy are similarly arranged.

The ships of the Royal Canadian Navy are:—

H.M.C.S. *Champlain* (destroyer—in commission);
H.M.C.S. *Vancouver* (destroyer—in commission);
H.M.C.S. *Armentières* (minesweeper—in commission);
H.M.C.S. *Festubert* (minesweeper—in commission);
H.M.C.S. *Ypres* (minesweeper—in commission).
Two new destroyers, H.M.C.S. *Saguenay and* H.M.C.S. *Skeena*, have been constructed for the R.C.N., and are expected to arrive in Canadian waters in July, 1931.

Naval training establishments, comprising: naval barracks; gunnery drill sheds, with all modern appliances for teaching gun-laying, sight-setting, etc.; parade grounds; and other equipment, are maintained at Halifax and Esquimalt. Naval dockyards, with work shops, etc., for refitting and supplying necessary stores to H.M.C. ships, are also maintained at Halifax and Esquimalt.

Royal Canadian Naval Reserve.—The establishment of the Royal Canadian Naval Reserve is 70 officers and 430 men recruited from amongst sea-faring personnel. Officers have been appointed to act as registrars at Halifax, Charlottetown, Quebec, Montreal, Vancouver.

Officers and men of the Royal Canadian Naval Reserve attend naval training at Halifax and Esquimalt for 42 days for the first year of enrolment and for 14 days annually or biennially thereafter. They are permitted to volunteer for service afloat up to a maximum of six months during each period of enrolment. The period of enrolment in the Royal Canadian Naval Reserve is five years.

Royal Canadian Naval Volunteer Reserve.—The establishment of the Royal Canadian Naval Volunteer Reserve is 70 officers and 930 men, distributed as follows: —Halifax (half company); Saint John (half company); Charlottetown (half company); Quebec (half company); Montreal (company); Ottawa (half company); Toronto (company); Hamilton (half company); Winnipeg (company); Saskatoon (half company); Regina (half company); Edmonton (half company); Calgary (half company); Vancouver (half company); Prince Rupert (half company).

Each company or half company is under the immediate command of an officer of the R.C.N.V.R., appointed as company commanding officer. The company commanding officer is assisted by other commissioned officers of the force.

A petty officer instructor (a highly qualified ex-petty officer of the Royal Navy or of the Royal Canadian Navy) is employed at each company headquarters to give instruction to men of the company in gunnery, seamanship and other naval subjects.

Each officer and man of the R.C.N.V.R., performs annually a minimum of 30 drills of not less than one hour's duration at company headquarters. In actual practice 40 to 50 drills have been performed annually by each member of the company. Officers and men also attend from two to three weeks' naval training annually at the naval bases at Halifax or Esquimalt.

Officers and men who can obtain the necessary leave of absence are permitted to perform a maximum of four months' voluntary service during each period of enrolment, and a large number have availed themselves of this opportunity of gaining extended naval experience under sea-going conditions. The period of enrolment in the R.C.N.V.R. is three years.

Subsection 3.—Air Services.

Under the Act creating the Department of National Defence, the powers, duties and functions vested in the Air Board by the Air Board Act of 1919 are now administered under the direction of the Minister of National Defence.

The Air Services have three functions:—

(1) The air defence of the country.
(2) The conduct of flying operations for the civil departments of the Government.
(3) The control of civil aviation.

On July 1, 1927, the Air Services, which up to that date had been administered by the Director, Royal Canadian Air Force, under the Chief of Staff, were reorganized and divided into two divisions, as follows:—

(a) Military.

Royal Canadian Air Force.—The Royal Canadian Air Force, under the Chief of the General Staff, administers and controls all military air operations. The functions of the Royal Canadian Air Force are as follows:—

(a) To provide adequate training facilities for all Government Air Services.
(b) To provide a nucleus air force around which service units can be formed in the event of war.
(c) To build up a reserve of pilots and mechanics.

The principal station of the Royal Canadian Air Force is at Camp Borden, Ontario, with other units at Vancouver and Ottawa.

The R.C.A.F. Station, Camp Borden, provides training for officers and airmen of the permanent and non-permanent personnels of the R.C.A.F., and also summer training for provisional pilot officers. Training is also provided, and trained personnel supplied, to the Civil Division of the Air Services. The training covers flying and ground subjects, co-operation with military services, and such other courses of instruction as may be necessary.

The R.C.A.F. Station, Vancouver, provides a seaplane training base for the Royal Canadian Air Force, as the R.C.A.F. Station, Camp Borden, provides training on land machines only.

The strength of the Royal Canadian Air Force, as at Dec. 31, 1930, was 177 officers and 734 other ranks.

(b) Civil.

To meet the growing needs of civil aviation, the following three branches were organized, under the Deputy Minister:—

Civil Government Air Operations.—This Branch is charged with the carrying out of all air operations required by any Dominion Government service, including the forest protection, survey and other miscellaneous work now carried out for the Departments of the Interior, Mines, Agriculture, Indian Affairs, National Revenue, Public Works, Railways and Canals, Marine, Fisheries, etc. The headquarters of the Branch is at Ottawa, and its operating bases are as follows:—*main bases:* High River, Alta.; Winnipeg, Man.; Ottawa, Ont.; Dartmouth, N.S.; *sub-bases:* Lac-du-Bonnet, Cormorant Lake, Ladder Lake, Norway

House, Man.; Fitzgerald, Alta.; *detachments:* Grande Prairie, Alta.; Winnipegosis, Beren's River and Thicket Portage, Man.; Lac-la-Ronge, Sask. Eleven mobile photographic detachments undertake air photography in all provinces.

The central stores and workshops for the Civil Division are administered as a part of this Branch. These are located at Victoria island, Ottawa.

Control of Civil Aviation.—The duties of this Branch include the inspection, licensing and registration of aircraft, airharbours, commercial and private air pilots, air engineers and air navigators. In addition to these duties, the location and construction of air routes and matters connected with airship services are administered in this Branch.

Civil aviation in the Dominion has had its chief development in connection with the exploration and conservation of the natural resources of the various provinces, including forest protection, aerial photography and the transport of men and supplies to remote points and mining districts. Nineteen regular air mail routes are now in operation.

On Dec. 31, 1930, there were in force certificates and licences as follows:—private air pilots, 309; commercial air pilots, 402; air engineers, 370; registration of aircraft, 495; airharbour licences, 69. (See also "Air Navigation", pp. 696-698, in the chapter on Transportation and Communications.)

Aeronautical Engineering.—The Branch undertakes the technical duties for both Military and Civil Divisions. The Chief Aeronautical Engineer acts as Consulting Engineer to the Department of National Defence, and is responsible for all questions of design, airworthiness of aircraft, equipment, works and buildings, and other similar technical duties.

Subsection 4.—The Royal Military College.

The Royal Military College of Canada was founded in 1876 by the Honourable Alexander Mackenzie, Prime Minister of Canada. Since its foundation 2,203 gentlemen cadets have been enrolled, and of this number 199 are now in attendance.

The Royal Military College has a very distinguished record in connection with the war. Of the 914 graduates and ex-cadets who served, 353 were granted commissions direct from the College, and 43 enlisted with a view to obtaining commissions; 156 ex-cadets were reported as killed in action, died of wounds, or missing. Ex-cadets of the College won the following honours and decorations:—1 Victoria Cross and 3 recommendations for the Victoria Cross, 106 Distinguished Service Orders, 109 Military Crosses, 2 Distinguished Flying Crosses, 62 other British decorations, 42 foreign decorations. Three Canadian and one Australian divisions were commanded by graduates of the College.

Ex-cadets who have served in the Army, either in the regular forces or during the Great War, include 1 general, 5 lieutenant-generals, 17 major-generals, and 29 brigadier-generals or brigadiers. Eleven knighthoods have been conferred on ex-cadets for distinguished service.

The establishment of the College, as stated in the Act of 1874 (37 Vict., c. 36), was "for the purpose of imparting a complete education in all branches of military tactics, fortifications, engineering and general scientific knowledge in the subjects connected with and necessary to a thorough knowledge of the military profession, and for qualifying officers for command and staff appointments". In addition to the foregoing, the course of instruction is such as to afford a thorough practical and scientific training in civil engineering, surveying, physics and chemistry, English and French. Strict discipline, combined with physical training, riding, drill and outdoor games, forms part of the curriculum.

The College is situated on a beautiful peninsula, one mile from Kingston, with the Cataraqui river emptying into the St. Lawrence river at its junction with lake Ontario on the one side, and Navy bay on the other. The grounds include about 500 acres. The buildings of the College proper are situated on the above-mentioned peninsula, comprising 60 acres. The remainder of the grounds, on which stands the historic Fort Henry, is at the disposal of the College for use as a training area. On the point of the College peninsula is situated Fort Frederick, built in 1837 when Kingston became the capital of Canada, the fort comprising a portion of the defences of Kingston. The College is under the supervision of the Department of National Defence, and is inspected annually by an advisory board composed of leading Canadian citizens, both civil and military, which makes its reports and recommendations to the Minister of National Defence. The staff is composed of a commandant and a staff-adjutant, assisted by a competent staff of civil and military professors and instructors.

A four years' course leads to a "diploma with honours" or "diploma" or a "certificate of military qualification". A number of commissions in the Canadian Permanent Force and the Royal Canadian Air Force, as well as commissions in the British Regular Forces, the Indian Army, and the Royal Air Force, are offered annually to graduates; and for cadets who desire to obtain commissions in the Royal Canadian Navy a limited number of naval cadetships are available each year to cadets who successfully complete the first two years' studies and who were under 18 years of age at the time of entry into the College. In addition, one inspector's commission in the Royal Canadian Mounted Police is open each year to a graduate. To those graduates joining the British Army, the privilege of one year's seniority is granted in the British or Indian Armies. This has been arranged in order to equalize the seniority of graduates of the Royal Military College of Canada with those of the Royal Military Academy, Woolwich or the Royal Military College, Sandhurst, since the courses at the latter institutions are shorter than the Canadian.

The principal Canadian universities admit recommended graduates to the fourth year of their civil engineering courses and to the third year of other engineering courses; and some of the universities admit graduates to the third years of arts and science courses.

The R.M.C. diploma is accepted by the Law Societies and Bar Associations of Ontario, Nova Scotia, Quebec, Manitoba, Saskatchewan, British Columbia and Alberta, as the equivalent of a B.A. degree for admission to the study of law. The Dominion Association of Chartered Accountants likewise accepts R.M.C. graduates as registered students under the same conditions as university graduates.

Entrance to the College is on a competitive basis. Candidates are required to pass a rigid medical examination, and to have obtained junior matriculation or an acceptable equivalent.

Applications for admission to the College should reach The Secretary, Department of National Defence, Ottawa, before May 31 of each year.

Section 3.—Public Works.[1]

Since Confederation and before, the constructing department has been known as the Department of Public Works. In 1879 the railways and canals were placed under control of a new department, the building and maintenance of penitentiaries were transferred to the Department of Justice, the maintenance and construction of lighthouses to the Marine and Fisheries Department, and the small drill halls and armouries to the Department of Militia and Defence. The work of the Department of Public Works is now divided into three principal branches, *viz.*, the Engineering Branch, the Architect's Branch and the Telegraph Branch.

Engineering.—The Engineering Branch conducts the construction and repair of wharves, piers, breakwaters, dams, weirs, bank and beach protection works; the improvement of harbours and rivers by dredging; the construction, maintenance and operation of Government dredging plant; the construction and maintenance of graving docks; the construction and maintenance of interprovincial bridges and approaches thereto, also of bridges on highways of national importance in the Northwest Territories; the maintenance of military roads, also hydrographic and ordinary surveys and examinations, inclusive of some precise levelling and geodetic measurements which are required for the preparation of plans, reports, and estimates; river gaugings and metering; the testing of cements and materials of construction; the licensing of international and interprovincial ferries; and the control of works constructed in or over navigable waters by authority of the Navigable Waters Protection Act.

Architecture.—The Architect's Branch constructs and maintains Government buildings, post offices, customs houses, examining warehouses, and constructs quarantine, immigration and experimental farm buildings, armouries, military hospitals and drill halls, and telegraph offices.

Telegraphs.—The Telegraph Branch has control over the construction, repairs and maintenance of all Government-owned telegraph lines and cables. These lines are located in the provinces of Nova Scotia, New Brunswick, Quebec, Ontario, Saskatchewan, Alberta, British Columbia and the Yukon. (See also pp. 725-728.)

Graving Docks.—There are 5 graving or dry docks built and owned by the Canadian Government. The dimensions of these docks are shown in Table **9.** The dock at Kingston, Ontario, is under lease to the Kingston Shipbuilding Company. The dock at Lauzon, Quebec, east of the old dock, is 1,150 feet long, divided into two parts (650 and 500 feet respectively) and 120 feet wide with depth of 40 feet at high water. It cost about $3,850,000. Under the Dry Dock Subsidies Act, 1910 (9-10 Edw. VII, c. 17), several docks have been subsidized by payments of 3 or 3½ p.c. per annum on the original cost for a given number of years, as shown in Table **10.**

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[1] Revised by J. M. Somerville, Asst. Secretary, Department of Public Works.

9.—Dimensions of Graving Docks Owned by the Dominion Government.

Location.	Length.	Width at—			Depth of Water on Sill.	Rise of Tide.	
		Coping.	Bottom.	Entrance.		Spring.	Neap.
	ft.	ft.	ft.	ft.	ft.	ft.	ft.
Lauzon, Que. "Champlain"	1,150	144	105	120	40·0 H.W.	18	13·3
Lauzon, Que. "Lorne"	600·3	100	59·5	62	25·8 H.W.	18	13·3
Esquimalt, B.C. (old dock)	450·7	90	41	65	29·0 H.W.	7 to 10	3 to 8
Esquimalt, B.C.	1,150	149	126	135	40·0 H.W.	7 to 10	3 to 8
Kingston, Ont.	343·6	79	47	55	16·0	–	–

10.—Dimensions and Cost of Graving Docks Subsidized under the Dry Dock Subsidies Act, 1910.

Location.	Length.	Width.	Depth over Sill.	Total Cost.	Subsidy.
	ft.	ft.	ft.	$	
Collingwood No. 1, Ont	515·8	59·8	14·8	500,000	3 p.c. for 20 years.
Collingwood No. 2, Ont	413·2	95	19·2	306,965	3 p.c. for 20 years.
Port Arthur, Ont	708·3	77·6	16·2	1,258,050	3 p.c. for 20 years.
Montreal, Que., floating dock, "Duke of Connaught"	601	100	31·5	3,000,000	3½ p.c. for 35 years.
Prince Rupert, B.C. (floating dock)	600	100	32	2,199,168	3½ p.c. for 35 years.
Saint John, N.B.	1,150	133	40	5,500,000	4½ p.c. for 35 years.
North Vancouver, B.C. (floating dock)	556·5	98	28	2,500,000	4½ p.c. for 35 years.

Expenditure and Revenue.—Table **11** shows the expenditure and revenue of the Public Works Department of the Dominion Government, for the fiscal years 1925-30. For the fiscal year 1930 the expenditure was $25,607,523, as compared with $19,948,576 in 1929—an increase of $5,658,947, largely accounted for by expenditures for harbours and rivers, dredging and public buildings.

11.—Expenditure and Revenue of the Public Works Department for the fiscal years ended Mar. 31, 1925-1930.

EXPENDITURE (exclusive of Civil Government Appropriations).

Item.	1925.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$	$
Harbour and river works	6,529,466	6,296,293	3,835,914	4,198,905	5,230,360	7,980,558
Dredging plant, etc	2,043,635	2,350,225	1,918.798	2,879,559	3,106.638	3,310,953
Roads and bridges	59,997	304,074	9,717	38,629	38,896	84,495
Airports	–	–	–	84,251	540.076	780,144
Public buildings	8,507,795	7,778,324	6,984,720	8,252,449	9,902,676	12,304,578
Telegraphs	905,519	856.144	802,495	840,451	893,888	885,871
Miscellaneous	593,482	245,061	199,309	302,170	236,042	260,924
Totals	**18,639,894**	**17,830,121**	**13,750,953**	**16,596,414**	**19,948,576**	**25,607,523**

11.—Expenditure and Revenue of the Public Works Department for the fiscal years ended Mar. 31, 1925-1930—concluded.

REVENUE.

Item.	1925.	1926.	1927.	1928.	1929.	1930.
	$	$	$	$	$	$
Graving docks	92,831	85,382	120,402	87,322	102,065	121,909
Rents	122,588	130,594	96,315	101,571	97,114	116,697
Telegraphs	294,735	294,181	309,488	298,663	356,485	356,469
Casual revenue	80,895	154,535	108,605	98,435	83,311	67,130
Ferries	1,860	4,543	1,048	1,361	1,358	1,318
Totals	**592,909**	**669,235**	**635,858**	**587,352**	**640,333**	**663,523**

Section 4.—The Indians and Eskimos of Canada.[1]

The Indians of Canada who are wards of the Department of Indian Affairs number about 108,012, their numbers varying slightly from year to year. A small yearly increase is evident, however, and the popular notion that the race is disappearing is not in accordance with facts. Before they were subjected to the degenerating effects of European civilization and the devastating results of the many colonial wars, the numbers of the Indians were undoubtedly larger, but any reliable information as to the aboriginal population during either the French or the early British *régime* is non-existent, and there is no adequate basis for a comparison between the past and present aboriginal populations. An interesting sketch of the progress of the Indians of Canada since Confederation will be found in the Report of the Department of Indian Affairs, 1927.

Administration.—Indians are minors under the law, and their affairs are administered by the Department of Indian Affairs under the authority of the Indian Act. This Department is the oldest governmental organization in the Dominion, dating back to the time of the conquest. It was originally under the military authorities, and did not become a part of the civil administrative machinery until 1845. By section 5 of the British North America Act, 1867, the Indians of Canada and the lands reserved for them came under the control of the Dominion Government, and in 1873 an Act of the Canadian Parliament (R.S.C., c. 81) provided that the Minister of the Interior should be Superintendent-General of Indian Affairs and as such have the control and management of the lands and property of the Indians in Canada. The aim of the Department of Indian Affairs is the advancement of the Indians in the arts of civilization, and agents have been appointed to encourage the Indians under their charge to settle on the reserves and to engage in industrial pursuits.

The system of reserves, whereby particular areas of land have been set apart solely for the use of Indians, has been established in Canada from the earliest times. It was designed in order to protect the Indians from encroachment, and to provide a sort of sanctuary where they could develop unmolested until advancing civilization had made possible their absorption into the general body of the citizens.

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[1] The letterpress under this heading is taken in the main from the article contributed by the Department of Indian Affairs to the 1921 edition. Paragraphs on the linguistic stock and tribal origin of the Indian population, their industries and occupations, their health, sanitation and dwellings, appearing on pp. 786-789 of the 1921 edition, are not reprinted. The statistics in this section of the Year Book have been revised by A. F. MacKenzie, Secretary of the Department of Indian Affairs.

Reserves have been set aside for the various bands of Indians throughout the Dominion, and the Indians located thereon are under the supervision of the local agents of the Department. The activities of the Department, as guardian of the Indians, include the control of Indian education, health, etc., the development of agriculture and other pursuits among them, the administration of their funds and legal transactions and the general supervision of their welfare.

The local administration of the Indian bands on the reserves scattered throughout the Dominion is conducted through the Department's agencies, of which there are in all 116. The number of bands included in an agency varies from one to more than 30. The staff of an agency usually includes various officers in addition to the agent, such as medical officer, clerk, farm instructor, field matron, constable, stockman, etc., according to the special requirements of the agency in question. The work of the agencies is supervised by the Department's inspectors, each inspector having charge of a certain number of agencies. Expenditures upon destitute Indians are made by the Dominion Government, either from public funds or from the tribal funds of the Indians themselves.

The Indian Act provides for the enfranchisement of Indians. When an Indian is enfranchised he ceases to be an Indian under the law and acquires the full status of citizenship. In the older provinces, where the Indians have been longer in contact with civilization, many are becoming enfranchised. Great discretion, however, is exercised by the Government in dealing with this problem, as Indians who become enfranchised lose the special protection attached to their wardship, so that it is necessary to guard against premature enfranchisement.

Treaties.—In the older eastern provinces, the history of the Indians has been one of slow development with that of the community. In western Ontario and the Prairie Provinces the situation has been different. There the rapid spread of civilization made it necessary to take prompt and effective measures to protect the moral claims of the Indians, which are recognized by the Government. Accordingly, treaties were entered into with the Indians, whereby the latter ceded to the Crown their aboriginal title and interest in the country. In consideration of such cession the Crown agreed to set aside adequate reserves, make cash grants, provide per capita annuities, give assistance in agriculture, stock raising, hunting, trapping, etc. as particular circumstances might require, provide education for the Indian children, and otherwise safeguard the Indians' interests. These treaties have been made from time to time as occasion arose and as new territories were opened up. No treaty has been made with the Indians of British Columbia, but their welfare has received no less attention from the Government on that account.

Government Expenditure.—On Mar. 31, 1930, the capital of the Indian Trust Fund, which a year earlier had amounted to $13,629,404, had increased to $13,856,521. The amounts expended from the Consolidated Revenue Fund were as follows:—voted by Parliament for the purposes of the Department, $5,112,338, annuities by statute, $219,416.

Statistics.—Statistical tables of population, school attendance, income and agricultural activities of the Indians in Canada follow. The figures in Table **12** are compiled from reports of the various censuses since Confederation, while the remaining tables contain data from the latest Annual Report of the Department of Indian Affairs. The 1930 figures include only those Indians who are wards of the Department of Indian Affairs, which takes a quinquennial census of the Indians under its control. Such Indians increased in number from 104,894 in 1924 to 108,012, or an increase of nearly 3 p.c. in the quinquennium. The figures of the decennial census include some thousands of persons of Indian race who are living off the reserves as ordinary citizens of Canada.

12.—Indian Population of Canada at the Decennial Censuses of 1871-1921, and in 1929.

Province or Territory.	1871.[1]	1881.[1]	1891.[2]	1901.	1911.	1921.	1929.
Prince Edward Island	323	281	314	258	248	235	295
Nova Scotia	1,666	2,125	2,076	1,629	1,915	2,048	1,929
New Brunswick	1,403	1,401	1,521	1,465	1,541	1,331	1,604
Quebec	6,988	7,515	13,361	10,142	9,993	11,566	12,885
Ontario	12,978	15,325	17,915	24,674	23,044	26,436	27,420
British Columbia	23,000	25,661	34,202	28,949	20,134	22,377	25,107
Manitoba	56,000	56,239	51,249	16,277	7,876	13,869	12,263
Saskatchewan				26,304	11,718	12,914	10,784
Alberta					11,630	14,557	10,311
Yukon Territory				3,322	1,489	1,390	1,264
Northwest Territories				14,921	15,904	3,873[4]	4,150
Totals	**102,358**	**108,547**	**120,638**	**127,941**[3]	**105,492**	**110,596**	**108,012**[5]

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[1] Census figures in the organized provinces and estimates for the rest of Canada.

[2] Racial origin not taken in 1891; the figures have been taken from the report of the Department of Indian Affairs of that year.

[3] Includes 34,481 "half breeds".

[4] The smaller Indian population of the Northwest Territories in 1921 is to be ascribed to the extension of the boundaries of Quebec, Ontario and Manitoba in 1912. This also accounts for the increase in the 1921 Indian populations of these provinces.

[5] Includes only those Indians who are under the administration of the Department of Indian Affairs, while census figures are for all persons of Indian racial origin.

Indian Education.—The educational work of the Department is now very extensive. In the fiscal year ended Mar. 31, 1930, a total of 350 Indian schools were in operation, including 78 residential schools for Indians with an enrolment of 7,302, and 264 day schools for Indians with an enrolment of 8,299 Indian pupils, also 8 combined public and Indian schools, with 142 Indian pupils enrolled. The total enrolment in the Indian schools has increased from 12,799 in 1915-16 to 15,743 in 1929-30 and the average attendance from 8,080 to 11,579, or from 63·1 p.c. to 73·6 p.c. of the enrolment. Continuation and high school work is now being taught in several of the day and residential schools. The amount spent on Indian education in the fiscal year ended Mar. 31, 1930, was $2,330,438.

13.—Enrolment and Average Attendance of Pupils at Indian Schools, fiscal years ended Mar. 31, 1916-30.

Fiscal Year.	Residential Schools.		Day Schools.		Total.		Percentage of Attendance.
	Enrolment.	Average Attendance.	Enrolment.	Average Attendance.	Enrolment.	Average Attendance.	
916	4,661	4,029	8,138	4,051	12,799	8,080	63·13
1917	4,520	4,149	7,658	4,136	12,178	8,285	68·03
1918	4,692	4,081	7,721	3,797	12,413	7,878	63·46
1919	4,640	4,014	7,312	3,587	11,952	7,601	63·59
1920	4,719	4,133	7,477	3,516	12,196	7,649	62·71
1921	4,783	4,143	7,775	3,931	12,558	8,074	64·29
1922	5,031	4,360	7,990	4,308	13,021	8,668	66·56
1923	5,347	4,695	8,376	4,411	13,723	9,106	66·35
1924	5,673	4,856	8,199	4,332	13,872	9,188	66·23
1925	6,031	5,278	8,191	4,601	14,222	9,879	69·46
1926	6,327	5,658	8,455	4,940	14,782	10,598	71·69
1927	6,641	5,881	8,069	4,660	14,710	10,541	71·66
1928	6,795	6,043	8,223	4,823	15,018	10,866	72·35
1929	7,075	6,282	8,272	4,976	15,347	11,258	73·35
1930	7,302	6,476	8,441	5,103	15,743	11,579	73·55

Economic Advancement of the Indians in the Past Decade.—The Indians of Canada have made remarkable progress in economic status during the past decade. When the fact is kept in mind that the Indians, unlike the whites, are not increasing rapidly in numbers, the significance of the figures which follow will be better appreciated. The area of the land under cultivation by Indians was 236,028 acres in 1930, as compared with 173,198 acres in 1916. Their live stock in 1929 included 42,266 horses and 52,393 cattle, as compared with 35,315 horses and 37,188 cattle in 1916. The total income of the Indians was $9,392,642 in 1929, as compared with $6,241,497 in 1916. If the Department's annual estimate of the number of Indians is used, the per capita figure of income is $87 in 1929 as compared with $59 in 1916. Information showing the acreage and value of Indian lands in 1930, the crops raised in 1929, the live stock owned by Indians in 1929, the sources and values of the income of Indians in 1929, is given by provinces in Tables **14** to **17**.

14.—Acreage and Value of Indian Lands, by Provinces, 1930.

Province.	Total Acreage of Reserves.	Land Cleared but not under Cultivation.	Land under Cultivation.	Value of Lands.
	acres.	acres.	acres.	$
Prince Edward Island	1,668	424	318	20,000
Nova Scotia	17,219	2,605	841	94,475
New Brunswick	37,752	1,156	413	78,048
Quebec	193,941	19,905	11,595	1,523,600
Ontario	1,041,086	78,977	59,457	4,986,794
Manitoba	474,653	119,697	15,908	3,016,905
Saskatchewan	1,368,562	770,422	47,685	14,485,362
Alberta	1,255,512	854,703	71,970	18,164,891
British Columbia	740,055	253,382	27,817	12,529,966
Yukon	3,735	–	24	3,734
Totals	**5,134,183**	**2,101,271**	**236,028**	**54,903,775**

15.—Areas and Yields of Principal Field Crops of Indians, by Provinces, 1929.

Province.	Wheat.		Oats.		Other Grains.	
	acres.	bush.	acres.	bush.	acres.	bush.
Prince Edward Island	20	280	60	1,200	–	–
Nova Scotia	–	–	67	1,067	4	30
New Brunswick	5	40	126	1,840	19	198
Quebec	180	1,974	1,692	29,938	300	3,761
Ontario	1,619	21,915	12,934	279,908	3,800	80,020
Manitoba	1,780	13,129	2,153	23,576	3,356	24,313
Saskatchewan	16,233	168,041	11,783	121,449	3,498	36,448
Alberta	19,067	218,369	8,196	68,435	1,647	18.227
British Columbia	1,961	39,660	3,027	62,207	223	3,775
Totals	**40,865**	**463,408**	**40,038**	**589,620**	**12,847**	**166,772**

Province.	Peas, Beans, etc.		Potatoes.		Other Roots.		Hay and Fodder.
	acres.	bush.	acres.	bush.	acres.	bush.	tons.
Prince Edward Island	–	–	18	1,620	1	150	115
Nova Scotia	15	166	102	4,660	20	670	552
New Brunswick	9	104	66	3,615	15	1,600	159
Quebec	110	765	972	19,052	58	2,741	4,511
Ontario	755	12,182	2,170	74,233	1,078	33,097	32,221
Manitoba	–	–	378	9,047	39	1,245	17,318
Saskatchewan	–	–	178	6,590	43	1,114	34,579
Alberta	35	5.423	140	9,326	39	2,559	24,565
British Columbia	470	10,263	1,861	167,445	421	37,063	27,963
Yukon and N.W.T.	–	–	1	38	–	83	1
Totals	**1,394**	**24,023**	**5,886**	**295,626**	**1,714**	**80,322**	**141,984**

16.—Numbers of Farm Live Stock of Indians, with Total Value, by Provinces, 1929.

Province.	Horses.	Cattle.	Poultry.	Value of Live Stock and Poultry.
	No.	No.	No.	$
Prince Edward Island	20	32	140	2,100
Nova Scotia	65	258	652	13,250
New Brunswick	27	54	385	6,130
Quebec	897	4,419	13,299	142,367
Ontario	4,127	13,123	74,657	664,590
Manitoba	2,289	3,353	4,784	267,215
Saskatchewan	6,070	7,566	11,195	665,432
Alberta	15,698	8,573	6,678	679,958
British Columbia	13,092	15,006	35,388	854,066
Yukon and N.W.T.	1	9	32	-
Totals	**42,266**	**52,393**	**147,210**	**3,295,108**

17.—Sources and Values of Income of Indians, by Provinces, 1929.

Province.	Value of—			Received from Land Rentals.	Earned by—			Total Income of Indians.[1]
	Farm Products, including Hay.	Beef Sold or Used for Food.	Wages Earned.		Fishing.	Hunting and Trapping.	Other Industries.	
	$	$	$	$	$	$	$	$
P.E.I.	2,150	350	950	-	950	500	5,300	10,200
Nova Scotia	12,300	2,595	53,900	410	2,950	5,730	29,045	108,644
New Brunswick	10,550	371	35,300	50	5,900	2,500	7,875	65,001
Quebec	83,433	10,987	400,760	10,493	26,046	201,970	100,317	856,389
Ontario	609,355	44,589	884,760	27,141	207,070	192,695	267,689	2,669,928
Manitoba	170,787	21,560	165,040	1,468	93.520	307,655	52,910	891,690
Saskatchewan	433,884	92,269	102,247	5,304	22,438	205,410	58,391	1,075,766
Alberta	349,130	82,619	118,132	49,166	17,528	69,822	55,884	938,968
British Columbia	522,905	99,600	866,100	32,702	517,295	342,669	190,905	2,633,706
Totals	**2,194,494**	**354,940**	**2,627,189**	**126,734**	**919,047**	**1,445,951**	**768,316**	**9,392,642**

[1] Includes income received from timber, and annuities earned as interest on Indian trust funds.

Eskimos.—Unlike the Indian tribes, which are scattered throughout Canada, the Eskimos are limited to the Northwest Territories, chiefly the northern fringe of the mainland and the Arctic Archipelago. The Eskimo is a nomad but lives for the most part along the Arctic littoral, not wandering far inland, since he depends for his subsistence largely on marine mammals and fish. The administration of this race was carried on along with that of the Indians prior to 1927, but on Aug. 31 of that year the Government transferred the care of the Eskimos to the North West Territories and Yukon Branch of the Department of the Interior. This transfer was largely influenced by the fact that the administration of the Territories and natural resources (which had long been under the Department of the Interior) and of the Eskimo inhabitants were closely allied and could be more efficiently carried on together.

Officers of the North West Territories and Yukon Branch and the Royal Canadian Mounted Police made a careful estimate in 1927 of the numbers and locations of all Eskimos in Canada. The result placed the total at 7,103, located as follows:—Baffin island, 1,513; vicinity of Hudson bay and strait, 3,202; Central Arctic, 438; Western Arctic, 1,650; Yukon Territory, 300.

The Department of the Interior has accomplished much in the way of providing medical care and regular inspection of the Eskimos, the setting aside of wild-life preserves for native use, and the establishment of permanent stations in the Arctic Archipelago from which regular patrols are made by the Royal Canadian Mounted Police.

It is generally realized that the help of the Eskimos will be invaluable to the development of whatever resources the far north holds.

Section 5.—Pensions and other Provisions for the Welfare of War Veterans.[1]

Pensions Division.—In previous issues of the Year Book, a full description has been given of the work of the Pensions Division of the Department of Pensions and National Health.

The Annual Report for the fiscal year ended Mar. 31, 1930, shows an increase in the number of ex-members of the forces admitted for inpatient hospital treatment, the number being 12,828 as against 12,147 in 1929 and 11,040 in 1928. The Department maintains eight hospitals which are situated in the following centres: Halifax, Saint John, Ste. Anne de Bellevue, Toronto, London, Winnipeg, Calgary and Vancouver. The sheltered employment workshops are still operated at Hamilton, Montreal, Halifax and Vancouver and one shop by the Red Cross Society at Victoria.

The following is an epitomized statement of the manner in which the funds appropriated by Parliament have been dealt with, and also sets forth the costs of administration and the adjudication of pensions in amount and percentage.

Direct payments to men and dependants		$ 44,348,724
Payments for services to men and dependants		3,954,283
Capital expenditures		57,595
Stores purchased		607,774
Payments to outside organizations		44,415
Recoverable expenditures		170,267
		$ 49,183,058
Insurance premiums revenue	$ 1,666,895	
Casual revenue	150,905	
		1,817,800
		$ 51,000,858
Administration expenses		1,344,425
		$ 52,345,283
Expense of the Federal Appeal Board and the Board of Pensions Commissioners		503,882
		$ 52,849,165

DEPARTMENTAL ADMINISTRATION EXPENSE.

General Treatment, Pensions and Returned Soldiers' Insurance		$ 1,344,425
Percentage—Departmental administration		2·544 p.c.
Adjudication of Pensions.		
Board of Pension Commissioners	$ 331,639	
Federal Appeal Board	172,243	
		503,882
Percentage—Adjudication of pensions		0·953 p.c.
Total administration and adjudication expense		$ 1,848,307
Percentage—All expense		3·497 p.c.

The Board of Pension Commissioners for Canada.—The Board of Pension Commissioners is responsible for the adjudication and award of pensions in respect of disabilities connected with military service and the award of pensions to the dependants of those who have died. It consists of three members and operates under the authority of the Pension Act.

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[1] Revised by E. H. Scammell, Secretary, Pensions Division, Department of Pensions and National Health.

The following statistics illustrate the growth of the activities of the Board of Pension Commissioners:—

18.—Pensions in Force as at Mar. 31, 1918-1930.

Fiscal Year.	Dependants.		Disabilities.		Total.	
	No. of Pensions.	Liability.	No. of Pensions.	Liability.	No. of Pensions.	Liability.
		$		$		$
1918	10,488	4,168,602	15,335	3,105,126	25,823	7,273,728
1919	16,753	9,593,056	42,932	7,470,72[illegible]	59,685	17,063,785
1920	17,823	10,841,170	69,203	14,335,118	87,026	25,176,288
1921	19,209	12,954,141	51,452	18,230,697	70,661	31,184,838
1922	19,606	12,687,237	45,133	17,991,535	64,739	30,678,772
1923	19,794	12,279,621	43,263	18,142,145	63,057	30,421,766
1924	19,971	12,037,843	43,300	18,787,206	63,271	30,825,049
1925	20,015	11,804,825	44,598	19,816,380	64,613	31,621,205
1926	20,005	11,608,530	46,385	21,456,941	66,390	33,065,471
1927	19,999	11,419,276	48,027	22,811,373	68,026	34,230,649
1928	19,975	11,209,351	50,635	24,374,502	70,610	35,583,853
1929	20,002	11,090,158	54,620	26,095,150	74,622	37,185,308
1930	19,644	10,742,518	56,996	27,059,992	76,640	37,802,510

The following are the figures of disability and dependent pensions of beneficiaries under the Pension Act as at Mar. 31, 1930:—

Total number of disability pensions, temporary	35,586	
Total number of disability pensions, permanent	21,410	
Total		56,996
Total number of dependent pensioners—		
Widows	7,831	
Others	11,813	
Total		19,644
Grand Total		76,640

Number of persons in receipt of benefits under the Pension Act as at Mar. 31, 1930:—

Disability pensioners	56,996	
Disability pensioners' wives	42,306	
Disability pensioners' children	73,810	
Disability pensioners' other relatives	1,441	
Disability pensioners' (widowers, section 22-9 Pension Act)	179	
Total		174,732
Dependent pensioners	19,644	
Dependent pensioners' children	6,400	
Other relatives in addition to main dependant	1,647	
Total		27,691

SUPPLEMENTARY AWARDS.

Disability—		
Pension Act (sections 48 and 49 Pension Act)	31	
Supplementary to awards paid by Great Britain (sections 45 and 47 Pension Act)	273	
R.N.W.M. Police Supplementary (section 48 Pension Act)	3	
Total		307
Dependant—		
Pension Act (sections 48 and 49 Pension Act)	7	
Supplementary to awards paid by Great Britain (sections 46 and 47 Pension Act)	66	
Supplementary to awards paid by Belgium (section 46 Pension Act)	1	
Supplementary to awards paid by France (section 46 Pension Act)	35	
Supplementary to awards paid by Italy (section 46 Pension Act)	3	
Total		112
Grand Total		202,842

Rates of pensions for all ranks were published in tables on pp. 960-962 of the 1925 Year Book, to which the reader is referred.

Federal Appeal Board.—The members of the Board were appointed by Order in Council dated Aug. 17, 1923, and its work continued from that time without a break until its dissolution on Sept. 30, 1930.

The total additional annual liability in respect of pensions awarded under decisions of the Federal Appeal Board on account of adjustments made up to Aug. 31, 1930, was $823,168. In addition the sum of $2,280,418 was paid to ex-members of the forces and their dependants on account of retro-active adjustments of pension and treatment allowances under decisions of the Board.

In the entire seven years of the Board's existence 22,237 appeals were placed before it. Of this number 10,602 were heard; judgments were rendered on all but 81 of the cases heard. The greater number of the 81 cases on which judgment was not issued were claims where the hearings had been adjourned in order that the appellant might endeavour to obtain additional evidence in connection with his claim.

Of the balance of 11,635 cases registered with the Board, 4,167 were disposed of as being outside the Board's jurisdiction, 1,299 appeals were re-opened and settled by the Board of Pension Commissioners without the necessity of coming to appeal hearing, 754 was the total of cases where further information was required before an exact classification could be made, this including 251 appeals received in the last few days o fthe Board's existence; 5,415 cases normally would have come before the Board for hearing later, although in 1,749 of these Official Soldiers' Advisers had stated that they were not ready to proceed.

Pension Tribunal and Pension Appeal Court.—Since the end of the fiscal year as a result of legislation passed by Parliament in May, 1930, a number of changes have been made in the work of the department and in the provisions of the Pension Act. After a general discussion in Parliament, all matters concerning the welfare of veterans were referred to a special committee of the House of Commons. The desire to enlarge the scope of the legislation in order specially to benefit those who were in need was evident throughout the entire procedure and the report submitted by the committee was unanimous.

The major amendments to the Pension Act deal with the re-hearing of pension applications, the lodging of appeals, the removal of time limits, the broadening of the meritorious section, the stoppage of final payments, the reinstatement to pension of pensioners who accepted a final payment, the provision that marriage after the appearance of the disability before Jan. 1, 1930, is not a bar to the granting of a widow's pension, and a section dealing with the " benefit of doubt".

Under the amendments, the Federal Appeal Board ceased to function on Sept. 30, 1930. Provision was made for the appointment of a Pension Tribunal consisting of nine persons and a Pension Appeal Court consisting of three persons. The new procedure provided that applications be made in the first instance to the Board of Pension Commissioners for Canada, but that if a pension is not awarded the case be referred, through the channels provided for in the Act, to the Pension Tribunal to be dealt with by a quorum of that body at an open hearing. An appeal lies from any decision of the Pension Tribunal to the Pension Appeal Court on account of attributability, or whether any pre-enlistment disability was wilfully concealed, was obvious, was of a nature to cause rejection from service, or was congenital; or in respect of the degree of any pre-enlistment disability; or the right to receive pension in respect of any period prior to the date of application therefor; or the jurisdiction of the Board of Pension Commissioners or the Pension Tribunal to deal with an application; or the interpretation of any provision of the Pension Act. There is no appeal in respect of assessment. All applications previously disposed of by the Federal Appeal Board or the Board of Pension Commissioners may be renewed under the amendment.

By the removal of the time limit, applications for pension or for reconsideration of any decision or award can be made at any time.

The Board of Pension Commissioners, acting alone, is authorized to award a compassionate pension or allowance under the meritorious section. Applications under this section may be renewed before the Pension Appeal Court by its order.

Notwithstanding that the granting of final payments to those with a pensionable disability of under 15 p.c. has been of material benefit to a number of pensioners, in many cases it has created a hardship in that the money paid has been expended and no further pension has been payable unless the disability has increased. Under an amendment to this effect, no further final payments can be made, and those who have already received such payments are being restored to pension as from the time at which the amount of the final payment received was equal to the sum of the instalments of pension which would have been paid if pension had been continued in the same monthly amount. The restoration to pension and the continuation thereof is subject to the condition that the disability has persisted.

The provision that the widow of a member of the forces whose death results from a war disability shall be entitled to a pension, if she was married to such a member of the forces either before he was granted a pension or before Jan. 1, 1930, has benefited between 800 and 900 widows, and it will benefit a great many in the years to come.

From the commencement of the Pension Act there has been a provision that the widow of a man who was in receipt of a pension of 80 p.c. or upwards, would be granted a pension on the death of her husband, whether his death was attributable to his service or not. At first the time limit during which death from a non-service disability must occur was set at 5 years from date of discharge or date of commencement of pension, meaning any degree of pension. This was subsequently enlarged to 10 years. Reference to the date of discharge has now been struck out and the ten-year period made to run from the time the pensioner is or was placed on a pension of 80 p.c. or upwards.

With regard to the "benefit of doubt", it may be well to quote the phraseology of the Act which reads as follows:—

"Notwithstanding anything in this Act, on any application for pension the applicant shall be entitled to the benefit of the doubt, which shall mean that it shall not be necessary for him to adduce conclusive proof of his right to pension applied for, but the body adjudicating on the claim shall be entitled to draw, and shall draw from all the circumstances of the case, the evidence adduced and medical opinions, all reasonable inferences in favour of the applicant".

Veterans' Bureau.—Provision was made for the establishment of a branch of the department to be known as the "Veterans' Bureau". This has taken the place of the previous organization of Soldiers' Advisers. The head of the Bureau is known as the Chief Pensions Advocate and cases are presented to the Tribunal and the Court by him and by Pensions Advocates located in various parts of Canada. In addition Commission Counsel have been appointed to appear on the hearing of any application and to assist the Pension Tribunal and the Pension Appeal Court in disposing of claims.

War Veterans' Allowances.—An Act was passed by Parliament in May, 1930, providing for the issue of allowances to veterans in Canada, both pensioners and non-pensioners, who are unemployable by reason of intangible results of their war service apart from any consideration of their pensionable disability. The Act follows the lines laid down in the Old Age Pension Act, but sets an age limit of sixty instead of seventy, or an earlier age if the veteran is permanently unemployable by reason of physical or mental disability. The maximum allowance is $240 per annum for a single man, and $480 per annum for a married man if he and his wife are residing together. An income of $125 per annum enjoyed by a single man, or $250 enjoyed by a married man, whether consisting of personal income or pension, will not be taken into account, but anything in excess of these sums, other than casual earnings, will reduce the allowances payable.

Departmental officials have recognized for several years that there was an economic necessity to render some assistance, other than by way of pension, to men permanently unable to engage in remunerative employment who have seen real service, and the present Act, after many months of investigation of the problem, is the result. It does not apply to all who served in the Canadian forces, but only to those who served in a theatre of actual war, or who are in receipt of a pension or who have accepted a final payment in lieu of annual pension for injury or disease incurred or aggravated during service in respect of 5 p.c. or more total disability. In addition it applies to those who served in any of His Majesty's forces or the forces of any of His Majesty's Allies, who were domiciled in Canada at the time of enlistment and who served in a theatre of actual war.

The operation of the Act is placed under a War Veterans' Allowance Committee consisting of three members. This Committee is independent of the Department, although after it has granted an allowance, the Department is charged with the duty of the payment and administration thereof.

Returned Soldiers' Insurance.—The Returned Soldiers' Insurance Act of 1920 was placed under the jurisdiction of the Board of Pension Commissioners for Canada. The Board confines itself, however, to the issue of policies and to the supervision and adjudication of claims. All collections and payments are made by the Department. No applications under the Statute could be received after Sept. 1, 1923, but its operation has been extended from time to time, and applications may now be received until Aug. 31, 1933.

During the fiscal year ended 1930, there was a falling off in the number of applications for returned soldiers' insurance, due, doubtless, to the monetary stringency. The number of applications was 3,580, as against 4,757 during the previous fiscal year. Two hundred and eighty-one applications were refused for various reasons. Notwithstanding the employment situation, the number of surrenders was slightly less than during the previous year.

The total number of policies in force on Mar. 31, 1930, was 29,113, representing an insurance of $64,728,863. During the fiscal year the premium income was $1,668,184, interest was $287,504, making a total of $1,955,688. Expenditure during the year, in respect of death claims, cancelled insurance and surrendered policies, amounted to $853,912. The total number of death claims to Mar. 31, 1930, was 2,215, amounting to $6,056,941. The balance on hand as at Mar. 31, 1930, was $7,968,686.

Section 6.—Land Settlement—The Soldier Settlement Board.[1]

At the regular session in 1930 the Dominion Parliament appointed a special committee to deal with all matters relating to pensions and returned soldier problems. A sub-committee, appointed to inquire into the question of returned soldiers on the land, brought in several recommendations which were accepted by Parliament and an amendment to the Soldier Settlement Act was passed. The recommendations were:—

1. That the time limit within which any soldier settler, who has not already appealed and who is dissatisfied with his award on revaluation, may lodge an appeal before the Exchequer Court, be revived and extended to January, 1931.

2. That no contract, as between a soldier settler and the Soldier Settlement Board, as to which a dispute may arise, shall be rescinded save by order of a District or County Judge before whom both parties may appear after due notice has been given.

3. That we approve and recommend the continuance of the practice of advancing small loans for breaking, and to settlers upon brush farms who have cleared a reasonable acreage of such land.

4. That the total outstanding indebtedness of all soldier settlers who are still in active occupancy of their farms should be reduced by the amount of 30 p.c., provided that in no case the amount of reduction granted shall exceed the total of the debt still owing by the settler to the board.

5. That all live-stock liens held by the Board shall be released, the said stock to become the absolute property of the settler.

The revaluation of soldier settler farms, provided for by legislation in 1927, has been practically completed, with the following results: settlers who applied for revaluation, 8,344, of whom 205 withdrew their applications; 8,140 farms were re-appraised; 8,047 revaluation cases were reviewed by the Board and the depreciation determined; 6,423 settlers consented to the awards. The aggregate sale price to settlers of the 8,047 farms revalued amounted to $30,398,079 and the total depreciation in connection with these properties was considered to be $7,295,629, or 24 p.c. In 365 cases appeals were taken to the Exchequer Court.

Up to the end of the calendar year 1930 loans were granted to soldier settlers amounting to $112,377,516. Taking into account the revaluation of the land, the 30 p.c. cut in indebtedness and the reduction in cost of live stock the present investment, including unpaid interest, is $58,673,089. Since the inception of the scheme loan payments have totalled $45,674,924, of which $14,653,188 was interest payments.

Under the 3,000 British Family Scheme 3,346 families came forward. There are 2,157 families actively farming under land purchase agreements; 168 families are still on probation; 100 families did not take up board properties, preferring to make their way independently of the scheme; four families have repaid their loans in full and seven have made arrangements to assume their obligations by tripartite agreement or assignment. A total of 910 families have withdrawn from settlement. Of the 3,346 families who came forward 3,156 are still in Canada; 2,619 are engaged in agriculture under the Board or privately and 537 have taken up other lines of work.

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[1] Revised by C. W. Cavers, Director of Information and Statistics, Soldier Settlement Board.

Under the New Brunswick Family Scheme for the settlement of 500 British families, 294 came forward to the end of 1930. Twenty families have withdrawn from settlement.

In connection with the unemployment situation the Board launched late in September a special drive to find placements on farms for farm labourers and by the end of the year 1,595 men had been placed. Total placements and replacements of single and married farm workers during the calendar year were 4,950. Since this work was started the Board has made 55,312 placements, including domestics. By arrangement with the Department of Pensions and National Health the field staff of the Board were utilized to carry out investigations in rural districts of applications for allowances under the War Veterans' Allowance Act. The total number of investigations completed was 1,742. Field advisory service and aftercare were given to 4,190 prospective settlers and farm workers.

Section 7.—Department of the Secretary of State.[1]

The Department of the Secretary of State was constituted in its present form in 1873, through the merging of the previously-existing offices of the Secretaries of State for Canada and for the provinces. The Secretary of State is the official mouthpiece of the Government as well as the medium of communication between the Dominion and Provincial Governments, all correspondence between the Governments being conducted by him with the Lieutenant-Governors. He is also the custodian of the Great Seal of Canada and the privy Seal as well as the channel by which the general public may approach the Crown.

The Secretary of State is also the Registrar-General, registering all proclamations, commissions, licences, warrants, writs, and other instruments issued under the Great Seal and the Privy Seal. He is further charged with the administration of The Companies Act, the Canada Temperance Act, the Naturalization Act, the Boards of Trade Act, the Trade Unions Act, the Ticket of Leave Act. The following information on these subjects has been secured in the course of administration.

Charters of Incorporation.—The number of companies incorporated under the Companies Act and amending Acts during the fiscal year 1929-30 was 1,280 with a total capitalization of $1,346,138,367. Supplementary letters patent were granted during the year to 328 companies, 127 of which increased their capital stock by the aggregate amount of $293,496,800; 35 decreased their capital stock by $46,955,000; the remaining 166 were granted supplementary letters patent for various purposes, such as changing names, extending powers, etc. The total capitalization of new companies plus the increase of capital of existing companies amounted to $1,639,635,167.

In Table **19** will be found the number and capitalization of companies incorporated during the years 1900-1930.

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[1] Revised by Thomas Mulvey, B.A., K.C., Under-Secretary of State, Department of the Secretary of State.

19.—Number and Capitalization of Companies Incorporated under the Companies Act and Amending Acts during the calendar years 1900-1907, and the fiscal years ended Mar. 31, 1908-1930.

Year.	New Companies.		Old Companies.		Gross Increase in Capitalization.	Old Companies.		Net Increase of Capitalization.
	Number.	Capitalization.	Number.	Increase in Capital.		Number.	Decrease in Capital.	
		$		$	$		$	$
1900	53	9,558,900	–	3,351,000	12,909,900	–	–	12,909,900
1901	55	7,662,552	–	3,420,000	11,082,552	–	–	11,082,552
1902	126	51,182,850	–	5,055,000	56,237,850	–	–	56,237,850
1903	187	83,405,340	–	5,854,520	89,259,340	–	–	89,259,340
1904	206	80,597,752	–	3,366,000	83,963,752	–	–	83,963,752
1905	293	99,910,900	–	9,685,000	109,595,900	–	–	109,595,900
1906	374	180,173,075	–	32,403,000	212,576,075	–	–	212,576,075
1907	378	132,686,300	–	19,091,900	151,778,200	–	–	151,778,200
1908 (3 mos.)	64	13,299,000	–	865,000	14,164,000	–	–	14,164,000
1909	366	121,624,875	–	72,293,000	193,917,875	–	–	193,917,875
1910	420	301,788,300	44	46,589,500	348,377,800	4	670,600	347,707,200
1911	454	458,415,800	45	24,715,600	483,131,400	4	10,650,000	472,481,400
1912	575	447,626,999	44	42,939,000	490,565,999	7	17,880,800	472,685,199
1913	835	625,212,300	54	55,549,900	680,962,200	5	11,861,381	669,100,819
1914	647	361,708,567	61	63,599,003	425,307,570	3	3,290,000	422,017,570
1915	461	208,283,633	34	26,650,000	234,933,633	4	6,840,000	228,093,633
1916	534	157,342,800	28	68,996,000	226,338,800	11	4.811,700	221,527,100
1917	606	207,967,810	36	26,540,000	234,507,810	3	5,050,000	229,457,810
1918	574	335,982,400	41	69,321,400	405,303,800	4	1,884,300	403,419,500
1919	512	214,326,000	69	67,583,625	281,909,625	11	2,115,985	279,793,640
1920	991	603,210,850	88	85,187,750	688,398,600	10	19,530,000	668,868,600
1921	852	752,062,683	135	79,803,000	831,865,683	17	7,698,300	824,167,383
1922	875	351,555,900	43	18,275,000	369,830,900	13	5,121,450	364,709,450
1923	752	314,603,050	45	46,108,500	360,711,550	30	10,751,123	349,960,427
1924	604	204,646,283	58	15,352,755	219,999,038	27	57,944,410	162,054,628
1925	663	231,044,800	47	15,549,573	246,594,373	28	43,863,633	202,730,740
1926	801	353,342,800	48	33,303,500	386,646,300	47	43,797,780	342,848,520
1927	836	692,540,900	70	33,524,000	726,064,900	40	16,905,045	709,159,855
1928	1,102	538,595,570	82	179,167,100	717,762,670	31	37,123,580	680,639,050
1929	1,202	1,406,006,340	128	412,396,320	1,818,402,660	40	48,005,533	1,770,397,127
1930	1,280	1,346,138,367	127	293,496,800	1,639,635,167	35	46,955,000	1,592,680,167

Naturalizations.—The naturalizations effected under the Naturalization Act (R.S. 1906, c. 77) for the calendar years 1908-1917 inclusive, were given on p. 594 of the Year Book for 1919. Since Jan. 1, 1918, the only method of obtaining naturalization has been under what is known as the "Imperial" Naturalization Act, which came into force on Jan. 1, 1915. This Act was known under the title of the Naturalization Act, 1914, until July 7, 1919, when it was repealed and the Naturalization Act, 1919, came into force. On July 1, 1920, the Naturalization Act, 1919, was repealed, and the Naturalization Act, 1914, was revived and amended under the title of the Naturalization Acts, 1914 and 1920. By an amendment passed by Parliament in 1923, the restriction by which persons of alien enemy birth were ineligible to receive certificates of naturalization for a period of 10 years after the termination of the war was removed, and at the present time any alien may apply for naturalization, regardless of his nationality. All these Acts have been consolidated in R.S.C. 1927, c. 138.

Table **20** shows the number of naturalization certificates issued to single persons or heads of families under these Acts during the calendar years from 1921 to 1929. The total number of persons naturalized during the fiscal year ended Mar. 31, 1930, was 20,067, including the wives and minor children of those to whom naturalization certificates were issued.

20.—Naturalizations in Canada, by Principal Nationalities, under the Naturalization Act during the calendar years 1921-1929.

Nationality.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
Albanians	3	4	5	3	12	4	8	11	9
Arabians	–	1	–	–	–	–	–	1	–
Argentinians	1	2	1	–	1	–	2	2	1
Austrians	182	89	606	1,108	1,021	1,195	925	728	890
Austrians (Bohemian)	–	–	–	–	–	1	–	–	–
Austro-Hungarians	25	5	10	15	9	4	7	2	5
Austrians (Serbian)	–	–	–	–	–	1	–	–	–
Austrians (Ukrainian)	–	2	–	1	–	–	–	–	–
Belgians	137	132	129	157	192	204	157	169	264
Bolivians	–	1	–	–	–	–	–	2	–
Brazilians	2	5	4	–	1	2	–	–	3
Bulgarians	5	3	32	74	76	58	59	46	64
Chilians	–	1	–	–	1	1	–	–	–
Chinese	25	14	10	60	50	32	29	28	24
Colombians	–	–	–	–	–	–	1	–	–
Czechoslovaks	145	99	64	115	60	47	38	57	287
Danes	171	125	93	79	108	105	116	132	208
Danzigers	–	–	–	–	–	–	1	1	–
Dutch	94	65	51	85	67	75	79	64	112
Egyptians	–	2	1	2	–	2	1	–	1
Estonians	–	–	–	–	–	–	2	8	9
Finns	152	115	74	152	184	119	128	133	288
French	158	124	96	105	107	140	123	98	118
Germans	257	195	144	346	246	229	183	171	288
Greeks	224	260	268	384	292	167	161	153	173
Greeks (Albanian)	–	–	–	–	–	–	1	–	–
Greeks (Turk)	–	1	–	–	1	–	–	–	–
Hungarians	28	31	24	112	71	69	37	45	184
Icelanders	–	–	–	5	10	15	15	17	12
Italians	432	665	886	1,366	1,258	1,589	1,270	1,146	1,739
Italians (Greek)	–	–	–	–	–	1	–	–	–
Japanese	135	95	29	92	53	88	17	35	18
Latvians	–	–	–	–	–	–	17	30	25
Lithuanians	–	–	–	–	–	1	46	55	55
Luxemburgers	7	3	5	–	5	6	2	5	4
Mexicans	–	–	1	–	–	–	1	–	1
Montenegrins	4	–	1	1	2	2	2	1	2
Mount Lebanon	–	–	–	–	–	–	–	5	7
Nationality undetermined	1	–	–	4	1	–	–	1	–
No nationality	3	1	3	1	–	–	–	–	–
Norwegians	301	209	151	207	183	192	202	197	424
Palestinians	–	7	5	2	–	3	2	4	6
Persians	4	–	1	4	5	3	2	3	1
Persians (Armenian)	–	–	–	–	1	–	–	–	–
Poles	1,939	1,088	654	926	749	1,339	1,189	962	1,295
Poles (Russian)	3	–	–	–	–	–	–	–	–
Poles (Ukrainian)	287	302	12	–	–	–	–	–	–
Portuguese	1	1	–	1	1	1	1	1	1
Roumanians	873	585	475	620	561	626	570	437	671
Russians	2,027	1,715	1,206	1,240	989	1,119	981	858	1,687
Serb-Croat-Slovenes	123	99	80	119	117	116	80	78	295
Serbians	4	3	–	–	–	–	–	–	–
Spaniards	3	8	5	10	8	12	5	10	7
Subjects of Allied Powers	77	120	188	–	–	–	–	–	–
Swedes	437	276	226	284	262	274	258	242	295
Swiss	69	49	43	42	48	31	9	13	26
Turkestan	–	–	–	–	–	–	–	1	–
Turks	10	7	8	22	25	10	17	24	24
Turks (Armenian)	67	86	79	69	35	35	22	23	46
Turks (Assyrian)	3	1	–	–	–	–	–	–	–
Turks (Bulgarian)	–	–	–	–	1	–	–	–	–
Turks (Greek)	15	7	7	2	12	11	4	1	3
Turks (Macedonian)	1	–	–	–	–	–	–	–	–
Turks (Mesopotamian)	2	5	2	–	1	–	–	–	–
Turks (Palestinian)	1	–	–	1	1	–	–	–	–
Turks (Syrian)	134	136	125	137	118	128	93	80	87
U.S. Citizens	2,521	1,600	989	888	927	1,070	963	939	1,073
Venezuelans	–	–	1	–	–	–	–	–	1
Yugoslavs	2	–	–	–	–	–	–	–	–
Section 6[1]	3	–	2	2	1	3	2	–	1
Totals	**11,098**	**8,344**	**6,795**	**8,843**	**7,873**	**9,130**	**7,828**	**7,019**	**10,734**

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[1] Under Section 6 of the Naturalization Act the Secretary of State is authorized, in his discretion, to grant a special certificate of naturalization to any person with regard to whose nationality as a British subject a doubt exists.

Canada Temperance Act.—Under Parts I and II of this Act, provision is made for the prohibition of the sale of intoxicating liquors in counties and cities. The last vote taken under these parts was in the County of Compton, Quebec, on Apr. 28, 1930, in response to a petition for the repeal of the Act in that county. The vote resulted in favour of the repeal, which became effective on June 14, 1930. Part III of the Act relates to penalties and prosecutions, Part IV to the prohibition of the importation and exportation of intoxicating liquors into and from the provinces, while Part V enacts provisions in aid of provincial legislation for the control of the liquor traffic.

Section 8.—The Royal Canadian Mounted Police.

The Royal Canadian Mounted Police (formerly the Royal Northwest Mounted Police) are distributed throughout the Dominion, with headquarters at Ottawa. It is a Dominion constabulary, whose duties, owing to the fact that the provinces are responsible for the enforcement of law and order, are somewhat different from those of most police forces. In addition, however, to its strictly federal duties, by an arrangement approved by Order in Council on April 14, 1928, and coming into effect on June 1, 1928, the Force has assumed the enforcement of law and order in Saskatchewan, outside of urban centres which maintain their own municipal forces. The arrangement, which is for a term of seven years from 1928, is substantially similar to that which obtained in the two provinces of Alberta and Saskatchewan from their establishment in 1905 until 1917. As a result there are now nearly 90 detachments in the province, with officers and other ranks to the number of nearly 250 exclusive of those in the depot.

The federal duties of the Force, as distinct from its provincial duties in Saskatchewan, fall under the following general headings:—(1) The enforcement of Dominion Statutes; (2) The enforcement of the Criminal Code in the Northwest Territories (including the Arctic), the Yukon, the national parks and Indian reserves, and also when Dominion Departments are the aggrieved parties; (3) the enforcement (by special agreement) of provincial laws, etc., in national parks in British Columbia and Alberta; (4) investigations for other departments; (5) Police assistance and protection rendered to Dominion Departments, provincial authorities, other police forces, etc. The fourth and fifth of these categories have increased greatly in recent years, from 8,500 cases in 1920 to 62,554 in 1929, and the assistance rendered is of the most varied kinds, including aid to the Customs in preventing smuggling, to Inland Revenue in suppressing illegal stills, to the Department of Health in combating the traffic in narcotic drugs, to the Secretary of State in verifying the statements made by applicants for naturalization, to the Post Office in detecting frauds upon and robberies of the mails, to the Department of Indian Affairs in protecting the Indians, etc. Aid is occasionally given to Provincial Governments in the maintenance of law and order.

The Arctic work is becoming increasingly important; there are now in the Arctic and sub-Arctic regions (exclusive of the Yukon) 33 detachments with 96 all ranks, or about 9 p.c. of the entire strength. These detachments include posts on Ellesmere, North Devon, Baffin and Victoria islands, as well as along the coasts of the Arctic ocean and Hudson bay; one (Bache Peninsula) is within eleven degrees of the North Pole, and a powerful auxiliary power schooner, the *St. Roch*, employed in the Arctic ocean, ranks as a detachment. Every winter long patrols are made in these regions, the islands west of Ellesmere island (Axel Heiberg, etc.) being visited periodically. Contrasted with this is detective work in the urban communities, in running to earth counterfeiters, narcotic drug dealers, robbers of the mails, and others of the more dangerous types of evil-doers.

On Sept. 30, 1930, the strength of the Force was 56 officers, 1,067 non-commissioned officers and constables, and 122 special constables, or 1,245 all ranks, with 206 horses and 469 dogs. Excluding special constables, the accessions to the force numbered 45. The number of applicants was 2,807. The details of the strength and the fluctuations of strength are shown in Table **21.**

21.—Strength and Distribution of the Royal Canadian Mounted Police on Sept. 30, 1930, with Totals on Sept. 30, 1920-30.

Schedule.	Headquarters Staff.	Maritime Provinces.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Yukon.	Northwest Territories.	Baffin Island.	Ellesmere Island.	North Devon. Island.	Chesterfield Inlet.	On Loan.	Canada.
Commissioner	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Asst. Commissioners	1	–	–	–	–	1	–	–	–	–	–	–	–	–	–	2
Superintendents	2	–	–	2	1	2	2	1	1	–	–	–	–	–	–	11
Inspectors	3	1	1	6	2	9	7	6	2	3	–	–	–	–	–	40
Surgeon	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1
Asst. Veterinary Surgeon	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1
Staff Sergeants	5	2	–	5	3	7	6	4	3	–	–	–	–	–	–	35
Sergeants	11	3	5	23	8	38	16	13	3	2	–	–	–	1	1	124
Corporals	18	3	9	32	10	33	19	13	6	12	3	1	1	1	–	161
Constables	18	25	22	252	39	213	50	50	25	41	6	1	2	3	–	747
Special Constables	4	–	2	13	7	43	20	8	6	19	–	–	–	–	–	122
Totals, Canada....1930	**63**	**34**	**39**	**333**	**70**	**348**	**120**	**95**	**46**	**77**	**9**	**2**	**3**	**5**	**1**[1]	**1,245**
" **1929**	**64**	**34**	**39**	**316**	**57**	**352**	**112**	**88**	**43**	**75**	**7**	**3**	**3**	**5**	**1**[1]	**1,199**
" **1928**	**68**	**35**	**35**	**298**	**49**	**262**	**123**	**88**	**41**	**71**	**7**	**3**	**4**	–	**3**	**1,087**
" **1927**	**69**	**36**	**36**	**306**	**54**	**170**	**112**	**99**	**39**	**65**	**8**	**3**	**3**	–	**4**	**1,004**
" **1926**	**66**	**28**	**37**	**276**	**47**	**173**	**113**	**93**	**34**	**56**	**7**	**3**	**3**	–	**27**	**963**
" **1925**	**72**	**30**	**27**	**294**	**52**	**182**	**116**	**94**	**37**	**49**	**8**	**3**	**3**	–	**10**	**977**
" **1924**	**72**	**32**	**27**	**295**	**51**	**192**	**128**	**109**	**40**	**52**	**7**	**2**	**3**	–	**10**	**1,020**
" **1923**	**72**	**32**	**31**	**317**	**64**	**253**	**152**	**143**	**42**	**29**	**4**	**9**	–	–	–	**1,148**
" **1922**	**79**	**37**	**41**	**288**	**71**	**274**	**173**	**175**	**51**	**27**	**4**	**7**	–	–	–	**1,227**
" **1921**	**79**	**32**	**26**	**440**	**162**	**329**	**266**	**265**	**52**	**28**	**1**	–	–	–	–	**1,680**
" **1920**	**72**	**25**	**9**	**384**	**160**	**400**	**300**	**257**	**48**	**16**	–	–	–	–	–	**1,671**

[1] On loan to Canadian Legation, Washington.

Section 9.—Judicial and Penitentiary Statistics.[1]

Before Confederation each province had its own system of criminal jurisprudence founded on the criminal law of England and introduced by the Royal Proclamation of 1763. At Confederation, criminal law was assigned by sec. 91

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[1] Revised by Reginald E. Watts, Chief Statistician on Criminal Statistics, Dominion Bureau of Statistics. The fifty-fourth Annual Report of Statistics of Criminal and Other Offences for the year ended Sept. 30, 1929, is obtainable from the Dominion Bureau of Statistics.

of the British North America Act to the Dominion. In 1869 a number of Acts were passed establishing a uniform system of criminal legislation. These Acts were known as "The Criminal Law Consolidation and Amendment Acts of 1869".

The collection and publication of criminal statistics was first authorized by an Act of 1876 (39 Vict., c. 13), and the results have been published upon a comparable basis in annual reports from that time to the present, and are now collected and published by the Dominion Bureau of Statistics under the Statistics Act (R.S.C., 1927, c. 190), which provides for the receipts of an annual return by the Bureau from every court or tribunal administering criminal justice. The statistics as published show, for each judicial district (155 in number), the offences that have been committed, analysed to indicate the nature of the offence, the age, sex, occupation and social condition, birthplace, etc., of the convicted, and the sentence imposed. The Act also provides for the collection of the statistics of penitentiaries, prisons, reformatories and gaols, as complementary to the preceeding.

Subsection 1.—General Tables.

The statistics relate to years ended Sept. 30, the latest report being for 1929. Beginning with the report for 1922 an enlargement of the classification of offences has been adopted, by which offences of juvenile offenders are compiled separately from those of adults. The term "indictable" applies to offences of adults only, similar offences committed by juveniles being termed "major" offences; similarly, "non-indictable" offences of adults are termed "minor" offences when attributed to juveniles. All current tables have been worked out for 1922 and subsequent years in accordance with the new classification, but a comparative historical table, giving the totals for different classes of criminal offences and minor offences, including those of juvenile delinquents, is here published (Table **22**), together with a more detailed table for recent years (Table **23**). In the consideration of the former it should be remembered that while the criminal code undergoes little change over periods of time, the figures of summary convictions depend very much upon the changes in the customs of the people, and are apt to increase with the increasing urbanization of the population. The most significant column of Table **22** is the figure of criminal offences per 100,000 of population. Attention may be drawn to the increase in the proportion of both criminal offences and minor offences to population in the past year, convictions for criminal offences having risen from 277 per 100,000 population in 1924 to 359 per 100,000 population in 1929 and convictions for minor offences from 1,535 per 100,000 in 1924 to 2,928 per 100,000 in 1929.

It should be understood that the classification of offences in these general tables is irrespective of the mode of procedure. That is to say, the "criminal" cases include many indictable offences disposed of summarily under the Summary Trials Act. Hence any addition of indictable and major and minor offences, as shown in other tables, will not agree with the figures given in Tables **22** and **23**. The object here is to show a broad historical record of criminal and minor offences respectively.

22.—Convictions for Criminal Offences, by Groups, and Total Convictions for Minor Offences, years ended Sept. 30, 1876-1929, with Proportions to Population.

NOTE.—For figures for the years 1876-1899 see p. 993 of the 1930 Year Book.

Year.	Criminal Offences.							Minor Offences.			Total Criminal and Minor Offences.
	Offences against—			Other Felonies and Misdemeanours.	Total of Criminal Offences.						
	the Person.	Property with Violence.	Property without Violence.								
	No.	No.	No.	No.	No.	p.c. of all offences.	per 00,000 pop.	No.	p.c. of all offences.	per 100,000 pop.	No.
1900...	4,598	413	4,571	411	9,993	24·0	188	31,661	76·0	595	41,654
1901...	4,698	451	4,441	384	9,974	23·7	184	32,174	76·3	596	42,148
1902...	4,773	413	4,541	363	10,090	23·1	182	33,446	76·9	605	43,536
1903...	5,480	543	4,944	505	11,472	22·8	202	38,911	77·2	686	50,383
1904...	5,919	552	5,295	528	12,294	22·4	211	42,652	77·6	732	54,946
1905...	5,694	656	5,711	812	12,873	20·6	215	49,686	79·4	829	62,559
1906...	6,215	645	6,425	1,078	14,363	20·3	233	56,540	79·7	916	70,903
1907...	6,651	681	6,907	807	15,046	19·0	239	64,124	81·0	1,017	79,170
1908...	7,379	893	7,973	1,069	17,314	19·5	266	71,320	80·5	1,099	88,634
1909...	6,586	848	7,771	1,332	16,537	18·4	247	73,415	81·6	1,096	89,952
1910...	7,793	943	8,191	1,131	18,058	17·5	268	84,845	82·5	1,227	102,903
1911...	8,352	977	9,024	1,194	19,547	17·3	273	93,713	82·7	1,309	113,260
1912...	9,371	1,195	10,626	1,540	22,732	15·5	309	123,795	84·5	1,686	146,527
1913...	11,444	1,472	12,721	1,724	27,361	15·8	363	145,777	84·2	1,936	173,138
1914...	12,136	1,810	14,645	1,952	30,543	16·7	397	152,492	83·3	1,982	183,035
1915...	10,664	2,234	14,269	1,525	28,692	18·7	373	124,363	81·3	1,619	153,055
1916...	9,327	1,478	11,018	1,459	23,282	18·8	289	100,509	81·2	1,251	123,791
1917...	6,852	1,321	9,886	1,271	19,330	16·9	236	94,681	83·1	1,157	114,011
1918...	7,292	2,049	10,743	1,390	21,474	17·4	258	101,795	82·6	1,222	123,269
1919...	7,731	2,606	11,508	1,656	23,501	18·1	277	106,518	81·9	1,256	130,019
1920...	8,281	2,310	11,634	2,059	24,284	14·9	281	138,424	85·1	1,604	162,708
1921...	8,197	2,609	12,059	2,081	24,946	14·2	284	152,227	85·9	1,731	177,173
1922...	7,291	2,783	11,607	2,610	24,291	15·3	271	134,049	84·7	1,498	158,340
1923...	7,550	2,076	11,482	3,075	24,183	15·1	266	135,069	84·8	1,487	159,252
1924...	7,595	2,536	12,790	2,635	25,556	15·3	277	141,663	84·7	1,535	167,219
1925...	7,826	2,749	13,892	2,644	27,111	15·3	289	150,672	84·7	1,610	177,783
1926...	7,799	2,296	14,262	2,679	27,036	13·8	287	169,171	86·2	1,803	196,207
1927...	8,343	2,671	15,154	2,809	28,977	13·1	304	191,285	86·9	2,009	220,262
1928...	9,140	2,991	16,072	3,856	32,059	11·6	332	243,123	88·4	2,517	275,182
1929...	10,392	3,529	17,271	4,001	35,193	10·9	359	286,773	89·1	3,286	321,966

23.—Convictions for Criminal and Minor Offences, by Class of Offence, Compared as to Numbers and Ratios, years ended Sept. 30, 1925-1929 (Including Juveniles).

A.—NUMBERS.

Class of Offence.	1925.	1926.	1927.	1928.	1929.
	No.	No.	No.	No.	No.
Offences against the person	7,826	7,799	8,343	9,140	10,392
Offences against property with violence	2,749	2,296	2,671	2,991	3,529
Offences against property without violence	13,892	14,262	15,154	16,072	17,271
Other felonies and misdemeanours	2,644	2,679	2,809	3,856	4,001
Totals for Criminal Offences	27,111	27,036	28,977	32,059	35,193
Breach of municipal Acts and by-laws	76,619	92,184	110,532	156,758	181,199
Breach of liquor laws	11,636	13,512	12,487	15,279	19,339
Drunkenness	26,754	28,324	31,177	33,229	38,802
Vagrancy	5,830	6,988	7,877	8,623	11,782
Loose, idle and disorderly	5,946	4,675	5.649	5.556	5.044
Keeping bawdy houses and inmates thereof	4,495	4,006	3.206	3.003	5.350
Miscellaneous minor offences	19,392	19,482	20,363	20,675	25,257
Totals for Minor Offences	150,672	169,171	191,291	243,123	286,773
Grand Totals	**177,783**	**196,207**	**220,268**	**275,182**	**321,96**

23.—Convictions for Criminal and Minor Offences, by Class of Offence, Compared as to Numbers and Ratios, years ended Sept. 30, 1925-1929 (Including Juveniles) —concluded.

B.—RATIOS PER CENT OF TOTAL AND PER 100,000 OF POPULATION.

Class of Offence.	1925.		1926.		1927.		1928.		1929.	
	Per cent.	Per 100,000 pop.	Per cent.	Per 100,000 pop.	Per cent.	Per 100,000 pop.	Per cent.	Per 100,000 pop.	Per cent.	Per 100,000 pop.
Offences against the person	4·4	84	3·9	83	3·8	88	3·3	95	3·2	106
Offences against property with violence	1·6	29	1·2	24	1·2	28	1·1	31	1·1	36
Offences against property without violence	7·8	148	7·3	151	6·9	159	5·8	166	5·3	176
Other felonies and misdemeanours	1·5	28	1·4	29	1·2	29	1·4	40	1·3	41
Totals for Criminal Offences	15·3	289	13·8	287	13·1	304	11·6	332	10·9	359
Breach of municipal Acts and by-laws	43·1	818	46·9	982	50·2	1,161	57·0	1,623	56·3	1,850
Breach of liquor laws	6·6	124	6·8	144	5·7	131	5·6	158	6·0	197
Drunkenness	15·0	286	14·4	302	14·2	327	12·1	344	12·0	396
Vagrancy	3·3	62	3·6	74	3·6	83	3·1	89	3·6	120
Loose, idle and disorderly	3·3	64	2·4	50	2·6	59	2·0	58	1·6	52
Keeping bawdy houses and inmates thereof	2·5	48	2·1	43	1·4	34	1·0	31	1·7	55
Miscellaneous minor offences	10·9	208	10·0	208	9·2	214	7·6	214	7·9	258
Totals for Minor Offences	84·7	1,610	86·2	1,803	86·9	2,009	88·4	2,517	89·1	2,928
Grand Totals	**100·0**	**1,899**	**100·0**	**2,090**	**100·0**	**2,313**	**100·0**	**2,849**	**100·0**	**3,287**

The recent trend of total convictions, including those of juveniles, and of sentences imposed, is shown by provinces for the years 1923 to 1929 in Table **24.** Death sentences, which numbered 28 in 1919 and 26 in 1920, fell to 15 in 1923, rose to 22 in 1924, dropped to 18 in 1925, 15 in 1926, 12 in 1927, rose again to 19 in 1928 and to 26 in 1929.

24.—Convictions and Sentences for All Offences, by Provinces, years ended Sept. 30, 1923-1929.

Province.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
	No.	No.	No.	No.	No.	No.	No.
Canada—							
Convictions	159,252	167,219	177,783	196,207	220,262	275,182	321,966
Sentences—							
Penitentiary	1,174	1,389	1,536	1,553	1,739	1,991	2,164
Gaol or fine	147,919	131,795	144,960	163,084	179,863	223,794	263,417
Reformatory	531	791	1,033	722	865	858	1,336
Death	15	22	18	15	12	19	26
Other sentences	9,613	33,222	30,236	30,833	37,783	48,520	55,023
Prince Edward Island—							
Convictions	344	257	256	365	427	716	845
Sentences—							
Penitentiary	1	4	1	4	4	10	6
Gaol or fine	328	243	202	324	405	669	814
Reformatory	–	–	6	–	3	–	3
Death	–	–	–	–	–	–	–
Other sentences	15	10	47	37	15	37	22
Nova Scotia—							
Convictions	3,762	3,950	3,830	4,629	5,308	5,710	7,395
Sentences—							
Penitentiary	99	67	119	131	78	158	144
Gaol or fine	3,258	3,444	2,953	3,776	4,553	4,752	6,486
Reformatory	82	3	98	94	70	59	67
Death	–	–	1	–	–	–	–
Other sentences	323	436	659	628	607	741	698

24.—**Convictions and Sentences for All Offences, by Provinces, years ended Sept. 30, 1923-1929**—concluded.

Province.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
	No.	No.	No.	No.	No.	No.	No.
New Brunswick—							
Convictions	2,387	2,723	2,766	2,713	3,080	3,617	4,589
Sentences—							
Penitentiary	36	39	54	23	25	50	57
Gaol or fine	2,252	2,559	2,305	2,412	2,628	3,095	4,094
Reformatory	12	1	23	27	47	42	39
Death	–	–	2	–	–	–	–
Other sentences	87	124	382	251	380	430	399
Quebec—							
Convictions	31,710	25,532	30,150	28,952	34,093	35,060	57,302
Sentences—							
Penitentiary	252	290	395	398	394	542	507
Gaol or fine	29,645	21,911	24,469	23,986	28,193	28,853	47,215
Reformatory	91	5	223	124	215	154	162
Death	2	10	3	3	4	5	9
Other sentences	1,720	3,316	5,060	4,441	5,287	5,506	9,409
Ontario—							
Convictions	74,207	80,948	91,107	101,263	112,364	158,338	165,829
Sentences—							
Penitentiary	417	516	515	520	659	685	596
Gaol or fine	68,846	62,385	73,260	83,348	89,602	127,140	133,573
Reformatory	218	87	470	252	303	341	451
Death	4	6	3	2	3	4	6
Other sentences	4,722	17,954	16,859	17,141	21,797	30,168	31,203
Manitoba—							
Convictions	13,547	12,349	13,605	17,100	19,626	23,210	30,100
Sentences—							
Penitentiary	110	135	142	221	133	199	291
Gaol or fine	12,239	9,763	9,749	12,185	13,645	16,016	21,749
Reformatory	72	31	134	151	144	146	151
Death	–	1	1	4	1	1	1
Other sentences	1,126	2,419	3,579	4,539	5,703	6,848	7,908
Saskatchewan—							
Convictions	10,069	8,921	9,986	10,944	10,018	11,201	13,677
Sentences—							
Penitentiary	57	50	54	48	46	45	99
Gaol or fine	9,579	8,461	9,032	9,927	8,901	9,965	12,322
Reformatory	15	–	22	11	20	27	44
Death	3	2	–	–	1	1	7
Other sentences	415	408	878	958	1,050	1,163	1,225
Alberta—							
Convictions	10,067	9,765	9,368	10,111	10,635	13,054	16,659
Sentences—							
Penitentiary	77	83	86	79	162	97	242
Gaol or fine	9,384	8,442	7,630	8,403	8,876	10,720	13,947
Reformatory	10	4	8	12	14	26	25
Death	4	1	2	–	2	2	1
Other sentences	592	1,235	1,642	1,617	1,581	2,209	2,444
British Columbia—							
Convictions	13,115	14,773	16,620	20,034	24,616	24,142	25,430
Sentences—							
Penitentiary	123	204	170	127	237	205	222
Gaol or fine	12,349	13,757	15,332	18,638	22,974	22,460	23,544
Reformatory	31	18	49	51	49	63	57
Death	–	2	6	6	1	6	2
Other sentences	612	792	1,063	1,212	1,355	1,408	1,605
The Territories—							
Convictions	44	39	95	96	95	134	140
Sentences—							
Penitentiary	2	1	–	2	1	–	–
Gaol or fine	39	33	28	91	86	124	132
Reformatory	–	–	–	–	–	–	–
Death	2	–	–	–	–	–	–
Other sentences	1	5	67	3	8	10	8

Subsection 2.—Indictable Offences.

The progress of a community, from the moral point of view, is often judged by the number of convictions for indictable offences, as these are less affected than non-indictable offences by extraneous circumstances and the varying methods of law enforcement in different areas and in different years. However, in the study of such statistics it is important to have comparable figures over a period of years, and these are set out by provinces for each year since 1900 in Table **25**. Again, in Table **26** are shown the number of charges and convictions and the percentage of acquittals for the 3 years ended Sept. 30, 1927-29, the figures indicating the percentage of acquittals in the latest years.

It will be noticed that during the thirty-year period covered by Table **25** crimes increased from 4,853 to 24,097, or 396·5 p.c. The increase in the population during the same period was but 84·1 p.c., revealing that the crime rate was nearly five times as fast as the population.

25.—Convictions of Persons 16 years of age and upwards for Indictable Offences, by Provinces, years ended Sept. 30, 1900-1929.

Years.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon.	N.W.T.[1]	Total.
1900......	21	257	109	1,279	2,260	221	–	–	447	–	259	4,853
1901......	14	287	100	1,222	2,169	185	–	–	401	40	203	4,621
1902......	38	368	125	1,222	2,078	185	–	–	470	47	268	4,801
1903......	32	393	131	1,397	2,344	318	–	–	443	56	369	5,483
1904......	26	368	108	1,614	2,645	408	–	–	365	51	472	6,057
1905......	35	342	110	1,861	2,805	534	–	–	574	39	524	6,824
1906......	21	269	118	1,819	3,145	668	–	–	533	44	693	7,310
1907......	9	402	147	1,827	3,392	773	587	395	532	42	–	8,106
1908......	10	535	202	2,194	4,371	715	637	591	849	26	–	10,130
1909......	18	463	156	2,136	4,524	784	737	645	799	37	–	10,299
1910......	31	684	164	1,810	4,539	744	896	709	727	23	–	10,327
1911......	19	356	123	1,865	5,067	888	957	870	1,015	24	4	11,188
1912......	11	657	107	2,052	5,456	1,121	1,204	1,513	1,532	26	7	13,686
1913......	8	598	140	2,336	6,272	1,331	1,594	1,908	1,794	26	–	16,007
1914......	18	669	179	2,918	7,479	1,284	1,889	2,235	2,112	27	–	18,810
1915......	12	840	206	2,427	7,112	1,362	1,993	2,082	1,517	24	–	17,575
1916	11	519	241	3,166	6,023	914	1,711	1,895	1,503	20	–	16,003
1917......	21	427	228	2,667	4,824	755	1,057	894	1,058	22	–	11,953
1918......	12	563	230	2,916	6,111	811	1,067	886	659	11	–	13,266
1919......	14	663	241	2,960	6,605	919	1,134	1,028	951	5	–	14,520
1920......	4	580	375	2,517	6,707	987	1,467	1,233	1,212	6	–	15,088
1921......	15	712	313	2,654	7,548	1,159	1,220	1,263	1,282	3	–	16,169
1922......	27	701	322	2,885	7,021	1,188	1,391	1,171	1,004	10	–	15,720
1923......	13	400	148	2,655	6,886	1,094	1,446	1,424	1,116	6	–	15,188
1924......	25	595	224	2,729	7,180	1,160	1,647	1,423	1,265	10	–	16,258
1925	3	624	244	3,084	7,751	1,215	1,654	1,254	1,385	2	3	17,219
1926......	14	752	222	3,053	7,248	1,383	2,052	1,463	1,252	3	6	17,448
1927......	14	680	287	3,621	7,962	1,457	1,492	1,483	1,833	3	4	18,836
1928	43	891	365	4,299	9,052	1,672	1,761	1,701	1,931	5	–	21,720
1929......	55	869	358	4,780	9,489	1,988	1,918	2,201	2,425	8	6	24,097

[1] The decline after 1906 is due to the formation of the provinces of Saskatchewan and Alberta out of parts of the Northwest Territories.

26.—Charges, Convictions and Percentages of Acquittals for Indictable Offences, by Provinces, years ended Sept. 30, 1927-1929.

NOTE.—The figures of this table do not include charges or convictions of juvenile delinquents.

Province.	1927.			1928.			1929.		
	Charges.	Convictions.	Acquittals.	Charges.	Convictions.	Acquittals.	Charges.	Convictions.	Acquittals.
	No.	No.	p.c.	No.	No.	p.c.	No.	No.	p.c.
Prince Edward Island....	31	14	54·8	56	43	23·2	68	55	19·1
Nova Scotia.............	1,043	680	34·8	1,256	891	29·0	1,283	869	32·3
New Brunswick...........	345	287	16·8	443	365	17·6	448	358	20·1
Quebec..................	4,582	3,621	21·0	5,469	4,299	21·4	5,919	4,780	23·1
Ontario.................	10,301	7,962	22·7	11,396	9,052	20·6	11,935	9,489	20·5
Manitoba................	1,681	1,457	13·3	1,902	1,672	12·1	2,281	1,988	12·9
Saskatchewan............	1,663	1,492	10·3	1,941	1,761	9·3	2,117	1,918	9·4
Alberta.................	1,779	1,483	16·6	1,967	1,701	13·5	2,638	2,201	16·6
British Columbia........	2,130	1,833	13·9	2,257	1,931	14·4	2,862	2,425	15·2
The Territories.........	8	7	25·0	6	5	16·7	21	14	33·3
Totals..........	**23,563**	**18,836**	**21·1**	**26,693**	**21,720**	**14·9**	**29,572**	**24,097**	**18·5**

Classes of Indictable Offences.—Indictable offences are divided under the Canadian system into six main classes, as follows:—offences against the person, offences against property with violence, offences against property without violence, malicious offences against property, forgery and other offences against the currency, and other indictable offences. Convictions in all classes show an increase between 1927 and 1929. Details by offences are given in Table **27** and the details of the disposition of the charges in Table **28**, which shows, among other information, that convictions of females numbered 2,637 in 1929 as against 2,200 in 1928, 2,013 in 1927, 2,055 in 1926, 2,035 in 1925, 1,826 in 1924, 1,609 in 1923. Details as to occupation, conjugal condition, educational status, ages, use of liquors, birthplace, religion and residence of those convicted of indictable offences are given in Table **29**.

27.—Indictable Offences, by Classes, years ended Sept. 30, 1927-1929.

NOTE.—The figures of this table do not include charges or convictions of juvenile delinquents.

Class and Offence.	1927.		1928.		1929.	
	Charges.	Convictions.	Charges.	Convictions.	Charges.	Convictions.
CLASS I.—OFFENCES AGAINST THE PERSON.	No.	No.	No.	No.	No.	No.
Murder	45	11	42	19	50	26
Murder, attempt to commit	26	16	21	18	20	12
Manslaughter	94	40	95	35	111	59
Abortion and concealing birth of infants	32	21	33	21	25	16
Rape and other crimes against decency	676	442	698	439	681	402
Procuration	63	42	59	30	56	34
Bigamy	72	66	65	52	52	40
Shooting, stabbing and wounding	289	192	298	189	185	143
Assault on females and assault on wife	196	145	206	158	221	182
Aggravated assault	788	519	895	640	1,273	892
Assault on police officer	513	471	465	433	611	557
Assault and battery	1,215	951	1,576	1,283	1,669	1,310
Refusal to support family	261	170	295	220	318	193
Wife desertion	13	12	18	15	24	19
Causing injury by fast driving	52	27	87	52	111	62
Various other offences against the person	121	84	101	74	103	68
Totals	**4,456**	**3,209**	**4,954**	**3,678**	**5,510**	**4,015**
CLASS II.—OFFENCES AGAINST PROPERTY WITH VIOLENCE.						
Burglary, house, warehouse and shop breaking	1,918	1,731	2,175	1,948	2,526	2,298
Robbery and demanding with menaces	269	168	325	219	360	255
Totals	**2,187**	**1,899**	**2,500**	**2,167**	**2,886**	**2,553**
CLASS III.—OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE.						
Bringing stolen goods into Canada	-	-	5	4	3	3
Embezzlement	36	34	9	8	12	8
False pretences	1,439	1,190	1,599	1,294	1,799	1,513
Feloniously receiving stolen goods	535	376	596	398	593	383
Fraud and conspiracy to defraud	1,024	697	979	737	879	592
Horse, cattle and sheep stealing	32	26	61	48	76	60
Theft	8,632	7,108	9,479	7,870	10,391	8,777
Theft of mail	37	32	23	19	31	28
Theft of automobile	541	465	735	638	884	774
Totals	**12,276**	**9,928**	**13,486**	**11,016**	**14,668**	**12,138**
CLASS IV.—MALICIOUS OFFENCES AGAINST PROPERTY.						
Arson	79	33	79	33	81	34
Malicious injury to horses and cattle, and other wilful damage to property	297	245	369	282	429	347
Totals	**376**	**278**	**448**	**315**	**510**	**381**

27.—Indictable Offences, by Classes, years ended Sept. 30, 1927-1929—concluded.

Class and Offence.	1927.		1928.		1929.	
	Charges.	Convictions.	Charges.	Convictions.	Charges.	Convictions.
CLASS V.—FORGERY AND OTHER OFFENCES AGAINST THE CURRENCY.	No.	No.	No.	No.	No.	No.
Offences against the currency	3	3	6	5	6	4
Forgery and uttering forged documents	629	474	627	549	790	720
Totals	**632**	**477**	**633**	**554**	**796**	**724**
CLASS VI.—OTHER OFFENCES NOT INCLUDED IN THE FOREGOING CLASSES.						
Breach of the Trade Marks Act	62	60	26	26	24	23
Attempt to commit suicide	104	78	99	74	136	97
Carrying unlawful weapons	107	90	131	112	157	136
Criminal negligence	115	40	151	65	177	71
Conspiracy	–	–	100	49	87	52
Indecent exposure and other offences against public morals	76	66	75	69	141	128
Intimidation	39	21	32	25	59	35
Keeping bawdy houses and inmates thereof	893	809	918	844	1,471	1,130
Offences against Gambling and Lottery acts	984	908	1,524	1,403	1,513	1,387
Offences against Opium and Narcotic Drug Act	[1]	[1]	339	302	270	220
Offences against revenue laws	261	201	330	240	257	213
Illicit stills	371	353	312	291	290	280
Perjury and subordination of perjury	117	69	139	70	110	70
Prison breach and escape from prison	134	126	166	155	211	206
Riot and affray	125	78	119	103	162	136
Sodomy and bestiality	76	49	91	69	92	71
Various other misdemeanours	172	97	120	93	45	31
Totals	**3,636**	**3,045**	**4,672**	**3,990**	**5,202**	**4,286**
Grand Totals	**23,563**	**18,836**	**26,693**	**21,720**	**29,572**	**24,097**

[1] Included in summary convictions.

28.—Charges, Acquittals, Convictions and Sentences in respect of Indictable Offences, years ended Sept. 30, 1923-1929.

NOTE.—Juvenile delinquents not included.

Item.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
	No.	No.	No.	No.	No.	No.	No.
Charges	19,759	20,667	21,685	21,976	23,563	26,693	29,572
Acquittals[1]	4,550	4,389	4,441	4,510	4,685	4,970	5,432
Persons detained for lunacy	21	20	26	18	42	33	43
Convictions	15,188	16,258	17,219	17,448	18,836	21,720	24,097
Males	13,579	14,432	15,184	15,393	16,823	19,520	21,460
Females	1,609	1,826	2,035	2,055	2,013	2,200	2,637
First conviction	12,686	13,109	14,172	14,286	14,761	17,314	18,638
Second conviction	1,212	1,329	1,345	1,365	1,632	1,955	2,396
Reiterated conviction	1,290	1,820	1,702	1,797	2,443	2,451	3,063
Sentences—							
Option of a fine	4,916	5,142	4,712	5,469	5,606	6,719	7,050
Under one year in gaol	3,601	3,702	4,385	4,612	5,016	5,737	5,966
One year and over in gaol	1,057	1,461	1,336	1,309	1,456	1,668	1,715
Indeterminate	–	–	–	–	–	–	457
Two years and under five in penitentiary	949	1,054	1,244	1,198	1,370	1,622	1,781
Five years and over in penitentiary	223	330	278	351	364	362	374
For life in penitentiary	2	5	14	4	5	7	9
Death	15	22	18	15	12	19	26
Committed to reformatories	105	149	370	172	195	227	319
Other sentences	4,320	4,393	4,862	4,318	4,812	5,359	6,400

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[1] Include cases where proceedings were stayed, jury disagreed, etc.

29.—Occupations, etc., of Persons Convicted of Indictable Offences, years ended Sept. 30, 1923-1929.

NOTE.—Juvenile delinquents not included.

Item.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
	No.	No.	No.	No.	No.	No.	No.
Occupation—							
Agriculture	1,137	893	951	919	1,014	1,320	1,509
Lumbering	35	23	63	68	112	60	98
Fishing	69	20	71	56	61	96	66
Mining	167	29	162	168	169	179	205
Manufacturing and construction	1,156	1,235	1,316	1,485	1,786	1,903	2,298
Transportation	555	668	522	735	647	673	765
Trade	1,924	1,503	1,802	2,258	2,236	2,822	2,807
Service	1,092	1,725	1,766	1,250	1,916	2,302	3,030
Professional	90	79	96	84	95	137	222
Labourers	4,771	4,911	5,425	5,161	6,058	7,070	7,653
Not given	4,192	5,172	5,045	5,264	4,742	5,158	5,444
Totals	**15,188**	**16,258**	**17,219**	**17,448**	**18,836**	**21,720**	**24,097**
Conjugal condition—							
Married	5,245	5,284	5,777	5,928	6,559	7,886	8,220
Single	6,709	7,596	8,445	7,712	9,321	10,054	11,997
Widowed	171	228	263	198	247	374	336
Divorced	–	–	–	–	–	–	2
Not given	3,063	3,150	2,734	3,610	2,709	3,406	3,542
Educational status—							
Unable to read or write	512	446	528	494	641	533	632
Elementary	11,330	13,279	13,506	13,066	15,278	17,301	19,290
Superior	218	199	201	163	215	268	479
Not given	3,128	2,334	2,984	3,725	2,702	3,618	3,696
Age—							
16 years and under 21	2,641	3,103	3,464	3,192	3,760	4,231	5,909
21 years and under 40	7,277	7,631	8,238	7,753	9,011	9,640	12,799
40 years and over	2,559	2,535	2,544	2,845	3,110	3,760	4,481
Not given	2,711	2,989	2,973	3,658	2,955	3,089	918
Use of liquors—							
Moderate	8,509	9,013	9,518	9,121	10,848	11,629	12,919
Immoderate	1,015	944	1,330	1,158	1,399	1,952	1,914
Not given	5,664	6,301	6,371	7,169	6,589	8,139	9,264
Birthplace—							
England and Wales	1,190	1,308	1,310	1,230	1,335	1,496	1,916
Ireland	179	207	256	231	235	300	322
Scotland	390	440	389	427	554	638	645
Canada	7,802	8,384	9,494	9,237	10,710	12,367	13,930
Other British possessions	73	100	85	81	136	72	99
United States	766	767	789	711	844	987	1,129
Other foreign countries	1,969	1,738	1,897	1,962	2,185	2,671	2,926
Not given	2,819	3,314	2,999	3,569	2,837	3,189	3,130
Religion—							
Baptist	318	319	435	262	381	509	501
Roman Catholic	4,620	4,171	5,057	5,437	5,977	6,938	7,784
Church of England	1,784	2,123	2,429	2,243	2,392	2,327	2,889
Methodist	1,027	1,101	1,100	786	889[1]	573[1]	630[1]
Presbyterian	1,391	1,565	1,752	1,471	1,555	1,727	2,084
United Church	–	–	–	284	530	821	1,129
Other Protestant	1,737	1,388	1,596	1,706	2,044	3,007	3,675
Jewish	340	408	354	422	433	592	470
Other denominations	674	857	899	999	1,161	1,123	1,237
Not given	3,297	4,326	3,597	3,838	3,474	3,894	3,698
Residence—							
Cities and towns	11,886	12,806	13,917	14,323	15,393	17,563	18,717
Rural districts	2,941	2,762	2,941	2,936	2,816	3,893	5,118
Not given	361	690	361	189	627	264	262

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[1] Notwithstanding the fact that the United Church of Canada was completely organized in 1926 these persons reported themselves as Methodists.

Subsection 3.—Summary Convictions.

The following statistics relate to "non-indictable" offences committed by adults (persons 16 years of age or over) and disposed of by police magistrates or other justices of the peace, under authority of the Summary Convictions Act. Such convictions numbered 290,043 during the year ended Sept. 30, 1929, as compared with 245,763 in 1928, 193,240 in 1927 and 169,913 in 1926. This increase is due almost entirely to breaches of traffic regulations, which have risen from 78,027 in 1926 to 166,337 in 1929, or from 46 p.c. to 57 p.c. of the total convictions. By sexes the summary convictions appear as follows: in 1926 males, 159,528, females, 10,385; in 1927 males, 182,392, females, 10,848; in 1928 males, 232,554, females, 13,209; in 1929 males, 274,977, females 15,066.

Summary convictions are given by provinces from 1900 to 1929 in Table **30**, and details of these offences are given for the four latest years in Table **31**.

30.—Summary Convictions, by Provinces, years ended Sept. 30, 1900-1929.

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon.	N.W.T.[1]	Total.
1900......	402	2,270	2,174	8,430	15,650	1,423	-	-	2,505	1,877	1,154	35,885
1901......	321	2,648	2,165	7,894	16,268	2,018	-	-	2,714	1,259	1,223	36,510
1902......	311	3,459	2,220	7,941	16,892	2,049	-	-	2,990	947	1,067	37,876
1903......	400	4,462	2,278	8,268	19,112	2,682	-	-	3,086	922	2,652	43,862
1904......	421	3,819	2,624	9,662	19,783	4,890	-	-	2,869	543	3,581	48,192
1905......	331	4,234	2,480	11,733	21,634	6,789	-	-	2,874	377	4,483	54,935
1906......	212	4,763	2,560	12,511	24,046	8,471	-	-	3,386	352	6,510	62,811
1907......	222	4,659	2,821	13,283	26,520	8,671	4,729	4,077	4,766	312	-	70,060
1908......	278	4,562	2,717	16,094	29,858	7,794	4,536	5,521	5,684	244	-	77,288
1909......	277	4,348	2,449	16,491	31,423	8,279	4,375	6,181	4,415	256	9	78,503
1910......	336	5,338	2,382	16,452	36,028	9,271	6,340	8,754	6,070	215	17	91,203
1911......	375	5,306	2,766	17,729	34,871	12,366	7,317	9,350	10,380	145	28	100,633
1912......	437	5,920	3,022	24,335	42,104	13,985	9,184	15,254	16,472	163	84	130,960
1913......	443	6,353	3,136	29,714	51,396	16,513	11,711	17,513	17,882	157	-	154,818
1914......	498	6,613	2,872	30,563	56,874	14,840	11,854	16,806	20,481	196	-	161,597
1915......	346	5,774	2,833	24,152	49,942	11,266	9,650	12,331	15,993	143	-	132,430
1916......	405	5,924	2,664	20,767	41,732	7,826	9,287	9,526	6,344	156	-	104,631
1917......	323	4,700	2,564	22,560	42,655	7,065	6,007	5,726	6,768	84	-	98,452
1918......	209	4,794	1,611	25,374	46,448	7,298	6,536	6,744	6,821	64	-	105,899
1919......	236	5,533	2,447	30,881	44,587	8,128	6,180	5,961	7,638	32	-	111,623
1920......	340	5,790	3,405	40,801	55,049	11,093	6,523	7,219	13,996	49	-	144,265
1921......	373	4,639	2,680	45,042	63,874	9,563	6.137	8,571	14,460	37	-	155,376
1922......	309	3,332	2,281	31,441	63,015	9,530	6,876	7,766	11,720	52	-	136,322
1923......	321	3,033	2,179	27,563	64,639	11,377	8,346	8,359	11,639	37	-	137,493
1924......	232	3,355	2,499	22,803	73,768	11,189	7,274	8,342	13,508	29	-	142,999
1925......	235	2,790	2,417	25,364	79,470	10,724	8,020	7,840	14,875	29	61	151,825
1926......	345	3,568	2,418	24,428	90,061	13,913	8,614	8,142	18,337	45	42	169,913
1927......	392	4,362	2,565	28,732	101,345	16,420	8,243	8,801	22,292	54	34	193,240
1928......	662	4,499	3,031	29,302	146,586	19,921	9,108	10,927	21,598	72	57	245,763
1929......	783	6,231	4,032	51,099	153,385	26,536	11,413	13,939	22,499	94	32	290,043

[1] The decline after 1906 is due to the formation of the provinces of Saskatchewan and Alberta out of parts of the Northwest Territories.

31.—Summary Convictions, by Offences, years ended Sept. 30, 1926-1929.

Offence.	1926.	1927.	1928.	1929.	Increase or Decrease 1928-29.
Assault..................................	2,967	3,436	3,499	4,146	+ 647
Carrying firearms and unlawful weapons..	385	386	383	564	+ 181
Contempt of court......................	29	32	28	21	− 7
Cruelty to animals......................	446	545	474	390	− 84
Disturbing religious and like meetings...	22	25	28	38	+ 10
Fishery and Game Acts, offences against	1,195	1,245	1,599	1,858	+ 258
Gambling Acts, offences against..........	6,347	5,858	5,923	8,244	+ 2,321
Immigration Act, offences against........	77	61	40	51	+ 11
Inspection and Sales Act, offences against	142	227	198	191	− 7

31.—Summary Convictions, by Offences, years ended Sept. 30, 1926-1929—concluded.

Offence.	1926.	1927.	1928.	1929.	Increase or Decrease 1928-29.	
Adulteration of Food (Food and Drugs Acts)	231	240	221	198	−	23
Weights and Measures Acts, offences against	106	82	87	162	+	75
Liquor, Prohibition and Temperance Acts, offences against	13,512	12,477	15,263	19,327	+	4,064
Malicious or wilful damage to property	679	807	782	896	+	114
Masters' and Servants' Acts, offences against	140	210	244	321	+	77
Non-payment of wages	1,277	1,231	882	1,484	+	602
Municipal Acts and by-laws, breaches of various	90,901	109,777	156,057	180,508	+	24,451
Non-support of family and neglecting children	932	1,192	1,486	1,708	+	222
Contributing to delinquency of children	709	1,002	608	720	+	112
Opium and Narcotic Drug Act, various offences against	743	491	304[1]	396[1]	+	92
Profanation of the Lord's Day	784	824	1,115	635	+	480
Railway Acts, various offences against	730	775	917	1,031	+	114
Trespass on railway	731	925	1,062	1,283	+	221
Stealing ride on railway	404	929	633	944	+	311
Revenue laws, offences against	422	804	1,069	1,688	+	599
Trespass	829	593	604	858	+	225
Vagrancy	6,805	7,701	8,502	11,648	+	3,146
Drunkenness	28,317	31,171	33,224	38,826	+	5,602
Insulting, abusive and profane language	576	629	568	320	−	248
Frequenting bawdy houses	3,267	2,397	2,162	4,220	+	2,058
Loose, idle, disorderly conduct and breach of the peace	4,436	5,444	5,490	4,697	−	793
Various other offences	1,772	1,724	2,311	2,690	+	379
Totals	**169,913**	**193,240**	**245,763**	**290,043**	+	**44,280**

[1] Not including 302 convictions in 1928 and 220 in 1929, for selling and possessing drugs, which appear in the indictable offences.

Convictions for Drunkenness.—The number of summary convictions for drunkenness in Canada in 1929 was 38,826 as compared with 33,224 in 1928, 31,171 in 1927, 28,317 in 1926, 26,751 in 1925, and 27,338 in 1924, an increase of 5,602 or 16·8 p.c. in the latest year. Table **32** shows the number of convictions by provinces and years from 1900 to 1929.

32.—Convictions for Drunkenness, by Provinces, years ended Sept. 30, 1900-1929.

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon.	N.W.T.[1]	Total.
1900	327	1,255	1,288	3,209	3,370	776	-	-	1,227	341	422	12,215
1901	241	1,387	1,299	2,973	3,900	834	-	-	1,232	370	491	12,727
1902	230	2,012	1,403	2,783	3,944	1,003	-	-	1,192	371	386	13,324
1903	274	2,726	1,458	2,931	5,043	1,466	-	-	1,356	337	941	16,532
1904	288	2,344	1,676	3,986	5,465	2,505	-	-	1,288	242	1,101	18,895
1905	172	2,529	1,734	4,781	6,047	3,544	-	-	1,284	185	1,345	21,621
1906	120	2,919	1,843	4,802	7,459	3,905	-	-	1,697	111	2,254	25,110
1907	144	2,975	2,018	5,503	8,959	4,602	1,741	1,459	2,293	108	-	29,802
1908	184	2,800	1,881	6,843	9,417	3,639	1,318	1,990	2,900	117	-	31,089
1909	160	2,689	1,694	6,956	10,035	3,590	1,334	2,214	2,314	117	2	31,105
1910	183	3,131	1,562	5,557	10,717	4,289	1,885	3,543	3,085	115	1	34,068
1911	238	3,149	1,944	6,805	11,347	5,832	2,359	4,041	5,594	63	7	41,379
1912	309	3,693	2,116	9,863	12,785	6,925	2,462	6,657	8,275	72	14	53,171
1913	324	3,955	2,073	12,265	16,236	7,493	2,970	7,283	8,316	60	-	60,975
1914	342	3,999	1,765	12,776	17,703	6,193	2,142	5,710	9,376	61	-	60,067

32.—Convictions for Drunkenness, by Provinces, years ended Sept. 30, 1900-1929 —concluded.

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon.	N.W.T.[1]	Total.
1915......	231	3,436	1,694	8,939	12,553	4,154	1,332	2,802	5,960	60	-	41,161
1916......	219	3,614	1,696	7,108	11,728	3,114	1,062	1,809	2,327	53	-	32,730
1917......	207	2,546	1,516	8,025	10,945	1,085	770	391	2,372	25	-	27,882
1918......	96	2,435	704	6,680	7,932	1,123	434	825	778	19	-	21,026
1919......	116	2,879	1,350	7,116	8,498	1,570	618	1,057	1,004	9	-	24,217
1920......	120	3,140	1,882	11,863	15,021	2,330	919	1,536	2,948	10	-	39,769
1921......	144	2,156	1,264	9,944	14,498	1,429	708	1,838	2,379	2	-	34,362
1922......	162	1,492	1,088	7,103	10,063	1,623	816	1,608	1,081	12	-	25,048
1923......	164	1,392	1,074	6,260	11,370	1,680	884	1,277	1,443	21	-	25,565
1924......	94	1,456	1,176	6,146	12,993	1,948	505	1,464	1,545	11	-	27,338
1925......	112	1,466	1,171	6,342	11,811	1,948	668	1,374	1,844	9	6	26,751
1926......	168	1,898	1,234	5,364	13,752	1,871	487	1,413	2,114	6	10	28,317
1927......	182	2,053	1,397	7,000	14,334	1,883	618	1,182	2,496	26	-	31,171
1928......	263	2,176	1,285	6,362	15,931	1,863	1,014	1,538	2,758	34	-	33,224
1929......	406	3,284	1,814	8,328	17,620	1,830	794	1,810	2,898	42	-	38,826

[1] The decline after 1906 is due to the formation of the provinces of Saskatchewan and Alberta out of parts of the Northwest Territories.

Offences against the Liquor Acts.—Up till the Great War, alcoholic liquors were generally sold under specified conditions by licensed hotels or licensed shops. Offences against the Liquor Acts usually represented a breach of the conditions of sale. During the War prohibition was generally established but in more recent years the tendency has been for the Provincial Governments to take over the sale of liquor and to manage this sale by commissions and derive a revenue therefrom. Eight of the nine provinces now have their liquor commissions, so that Prince Edward Island is the only province in which prohibition prevails. In these circumstances, the convictions for offences against the liquor Acts reached these circumstances, the convictions for offences against the Liquor Acts in 1929 reached the highest figure on record *viz.*, 19,327. The number of such convictions in each year since 1900 is given by provinces in Table **33.**

33.—Convictions for Offences against the Liquor Acts, years ended Sept. 30, 1900-1929.

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon.	N.W.T.[1]	Total.
1900......	9	153	301	458	749	34	-	-	115	25	98	1,942
1901......	17	167	329	457	820	60	-	-	156	83	141	2,230
1902......	38	207	302	600	784	50	-	-	261	37	87	2,366
1903......	50	422	294	660	1,051	76	-	-	169	72	237	3,031
1904......	59	371	375	583	1,028	122	-	-	133	47	300	3,018
1905......	74	446	327	858	861	85	-	-	254	45	325	3,275
1906......	37	540	309	858	877	51	-	-	240	21	314	3,247
1907......	23	490	395	706	1,016	33	219	193	382	41	-	3,498
1908......	43	384	372	864	1,140	75	121	267	274	39	-	3,579
1909......	38	410	353	710	1,644	41	164	250	348	35	6	3,999
1910......	40	494	367	893	1,701	46	248	396	436	30	14	4,665
1911......	38	592	278	1,032	1,759	46	240	423	318	33	16	4,775
1912......	36	551	361	859	2,117	85	366	605	625	40	26	5,671
1913......	26	502	447	791	2,167	166	528	560	741	41	-	5,969
1914......	72	660	365	882	2,328	166	404	551	394	49	-	5,871
1915......	42	633	390	1,021	2,018	124	378	573	246	27	-	5,452
1916......	75	646	352	1,015	2,002	172	967	713	295	11	-	6,248
1917......	36	449	312	1,076	2,927	289	774	885	576	15	-	7,339
1918......	42	412	288	1,155	3,410	230	422	678	812	23	-	7,472
1919......	37	479	387	1,479	3,353	175	434	436	597	6	-	7,383
1920......	23	394	585	1,975	4,385	380	452	618	1,427	8	-	10,247
1921......	44	362	419	1,384	4,938	427	583	907	1,394	2	-	10,460
1922......	28	267	366	954	3,246	392	708	1,043	1,503	12	-	8,519
1923......	39	264	364	1,724	3,958	542	997	990	1,196	14	-	10,088
1924......	29	293	375	1,549	4,678	452	966	817	1,286	4	-	10,449
1925......	51	235	319	1,919	5,047	512	1,078	758	1,699	9	9	11,636
1926......	53	499	393	2,104	6,362	786	1,231	737	1,345	2	-	13,512
1927......	66	610	271	2,025	5,620	627	1,245	814	1,186	13	-	12,477
1928......	69	688	478	2,096	7,812	598	1,174	944	1,350	22	32	15,263
1929......	81	804	486	3,392	9,034	1,399	1,542	1,017	1,556	8	8	19,327

Breaches of Traffic Regulations.—Convictions for breaches of traffic regulations, which at the beginning of the century numbered only 185 in all Canada (Table **34**), have, as a result of the advent of the motor vehicle, become the largest element in the non-indictable offences, numbering in 1929 166,337 out of a total of 290,043, or about 57 p.c. of the total.

34.—Convictions for Breaches of Traffic Regulations, years ended Sept. 30, 1900-1929.

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon.	N.W.T.[1]	Total.
1900......	2	21	7	31	94	5	-	-	17	-	8	185
1901......	3	12	2	5	128	22	-	-	9	-	4	185
1902......	6	38	9	5	278	24	-	-	6	17	4	387
1903......	1	47	22	40	314	53	-	-	43	8	12	540
1904......	1	25	14	10	431	142	-	-	68	-	13	704
1905......	18	47	9	40	431	360	-	-	53	2	97	1,057
1906......	-	16	10	226	190	603	-	-	91	-	40	1,176
1907......	-	27	7	53	239	290	21	28	135	-	-	800
1908......	2	17	13	55	509	176	18	27	453	-	-	1,270
1909......	11	19	5	64	1,929	469	25	21	283	-	-	2,826
1910......	15	38	10	131	3,515	1,161	28	137	436	-	-	5,471
1911......	19	86	17	267	3,376	1,116	96	139	661	-	-	5,777
1912......	8	97	24	1,806	5,928	1,778	215	838	1,768	-	-	12,462
1913......	9	83	5	3,373	6,697	3,030	248	672	1,883	-	-	16,000
1914......	7	176	69	2,643	4,717	2,419	410	754	2,051	-	-	13,246
1915......	6	62	101	1,509	4,494	1,865	204	503	1,804	1	-	10,549
1916......	7	228	57	2,146	5,577	1,043	321	380	615	7	-	10,381
1917......	13	324	54	1,677	9,854	2,619	441	533	813	10	-	16,338
1918......	17	523	80	3,505	12,206	2,700	418	736	995	1	-	21,181
1919......	15	509	62	4,971	13,374	3,123	863	701	1,677	1	-	25,296
1920......	129	600	49	11,499	19,708	4,987	744	1,673	3,780	1	-	43,170
1921......	109	443	87	12,335	26,860	4,995	700	1,845	4,412	2	-	51,788
1922......	38	289	315	3,344	31,813	4,968	1,112	1,996	4,101	1	-	47,977
1923......	36	397	196	1,746	33,402	6,182	1,246	2,514	4,095	1	-	49,815
1924......	49	350	237	3,818	40,530	6,412	1,282	2,301	5,084	-	-	60,063
1925......	27	200	281	4,976	44,618	5,971	1,375	1,940	4,389	1	-	63,777
1926......	64	263	180	5,534	52,727	8,588	1,730	2,059	6,882	-	-	78,027
1927......	69	402	244	6,418	62,037	10,871	1,610	2,459	12,268	2	-	96,380
1928......	228	462	516	6,273	101,356	14,099	2,100	3,481	12,976	2	-	141,493
1929......	152	863	887	19,427	105,703	19,460	3,643	5,612	10,592	2	1	166,337

[1] The decline after 1906 is due to the formation of the provinces of Saskatchewan and Alberta out of parts of the Northwest Territories.

Subsection 4.—Juvenile Delinquency.

Juveniles under 16 years of age to the number of 7,826 were found guilty of various offences in the year ended Sept. 30, 1929, as compared with 7,699 in 1928, 8,185 in 1927 and 7,831 in 1926, an increase of 127 in the latest year. Of these 5,106 were convicted of "major" offences and 2,720 of "minor" offences, terms which correspond very nearly to "indictable" and "non-indictable" offences, as applied to adults. Convictions for "major" offences numbered 5,063 in 1928 and convictions for "minor" offences 2,636. The offences proven against juveniles in 1928 and 1929 are shown by provinces in Table **35** and by chief types of major offences committed for the years 1923-29 in Table **36**.

35.—Juvenile Delinquents Convicted of Major and Minor Offences, by Provinces and Sex, 1928 and 1929.

Province.		Major Offences.			Minor Offences.		
		1928.	1929.	Increase or Decrease.	1928.	1929.	Increase or Decrease.
Prince Edward Island............	M.	11	7	— 4	-	-	-
	F.	-	-	-	-	-	-
	Totals	11	7	— 4	-	-	-
Nova Scotia......................	M.	213	147	— 66	89	122	+ 33
	F.	12	11	— 1	6	15	+ 9
	Totals	225	158	— 67	95	137	+ 42

35.—Juvenile Delinquents Convicted of Major and Minor Offences, by Provinces and Sex, 1928 and 1929—concluded.

Province.		Major Offences.			Minor Offences.		
		1928.	1929.	Increase or Decrease.	1928.	1929.	Increase or Decrease.
New Brunswick	M.	140	125	− 15	68	65	− 3
	F.	5	5	-	8	4	− 4
	Totals	145	130	− 15	76	69	− 7
Quebec	M.	805	799	− 6	478	449	− 29
	F.	75	33	− 42	101	142	+ 41
	Totals	880	832	− 48	579	591	+ 12
Ontario	M.	1,724	1,898	+ 174	792	904	+ 112
	F.	76	64	− 12	108	89	− 19
	Totals	1,800	1,962	+ 162	900	993	+ 93
Manitoba	M.	888	893	+ 5	590	551	− 39
	F.	82	83	+ 1	57	49	− 8
	Totals	970	976	+ 6	647	600	− 47
Saskatchewan	M.	256	303	+ 47	51	20	− 31
	F.	17	15	− 2	8	8	-
	Totals	273	318	+ 45	59	28	− 31
Alberta	M.	336	344	+ 8	86	164	+ 78
	F.	4	5	+ 1	-	6	+ 6
	Totals	340	349	+ 9	86	170	+ 84
British Columbia	M.	400	364	− 36	176	121	− 55
	F.	19	10	− 9	18	11	− 7
	Totals	419	374	− 45	194	132	− 62
Canada	**M.**	**4,773**	**4,880**	**+ 107**	**2,330**	**2,396**	**+ 66**
	F.	**290**	**226**	**− 64**	**306**	**324**	**+ 18**
	Totals	**5,063**	**5,106**	**+ 43**	**2,636**	**2,720**	**+ 84**

Major Offences.—In Table **36** are shown the various major offences for which juvenile delinquents were convicted in 1928 and 1929. It will be observed that theft, together with house- and shop-breaking, accounts for the great bulk of the offences; in 1929 79·5 p.c. of the major offences were of this character.

36.—Juvenile Delinquents Convicted of Major Offences, by Offences, 1923-1929.

Offence.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	Increase or Decrease in 1929.
Murder	1	-	-	-	-	-	-	-
Manslaughter	-	-	-	2	-	-	1	+ 1
Rape, carnal knowledge and incest	12	19	-	8	5	13	10	− 3
Indecent assault	27	28	37	22	28	43	25	− 18
Aggravated assault and wounding	45	29	11	16	14	24	48	+ 24
Common assault	67	101	114	109	99	67	93	+ 26
Endangering life on railway	25	50	40	60	28	35	43	+ 8
Other offences against the person	2	-	5	3	5	2	3	+ 1
Breaking, entering and theft	752	811	677	653	770	818	972	+ 154
Robbery	3	6	17	6	2	6	4	− 2
Theft and receiving stolen goods	2,730	2,750	3,275	3,462	3,289	3,255	3,081	− 174
False pretences and fraud	10	8	12	8	22	10	15	+ 5
Arson	28	19	12	30	5	17	11	− 6
Other wilful damage to property	436	738	581	553	793	620	679	+ 59
Forgery and offences against currency	9	10	7	14	7	13	12	− 1
Immorality	10	86	144	114	68	96	69	− 27
Various other offences	8	10	48	30	21	44	40	− 4
Totals	**4,165**	**4,665**	**4,980**	**5,090**	**5,156**	**5,063**	**5,106**	**+ 43**

Minor Offences.—Of the 2,720 juvenile delinquents found guilty of minor offences in 1929, 691 were convicted of breaches of municipal by-laws, 347 of disorderly conduct and disturbing the peace, 330 of disobedience and incorrigibility, 484 of trespass, 327 of truancy, 175 of vagrancy and indecent conduct, and 366 of other minor offences.

Subsection 5.—Police Statistics.

In 1929, 138 cities and towns, with populations of 4,000 or over, supplied police statistics to the Dominion Bureau of Statistics. These cities and towns, with an aggregate population of 3,359,703, had 5,004 policemen, who made 296,559 arrests and summonses. The total number of offences committed during the year and made known to the police was 329,496, and the number of prosecutions was 263,532, or 80 p.c. of the known offences. Convictions secured in respect of these offences numbered 213,324, being 64·7 p.c. of the known offences and 80·9 p.c. of the prosecutions.

The number of automobiles reported stolen was 11,160, of which 11,150 were recovered. Of 8,206 bicycles stolen 4,865 were recovered. The value of other lost articles reported to the police was $2,290,972, of which 66·6 p.c. was recovered.

37.—Police Statistics of Canadian Cities and Towns, by Provinces, year ended Sept. 30, 1929.

Province.	Number of—					Number of the Population to each Policeman.	Number of Arrests per Policeman.
	Cities and Towns.	Population.	Police.	Arrests.	Summons.		
Prince Edward Island	1	12,347	9	463	443	1,372	52
Nova Scotia	13	167,601	141	6,702	3,747	1,190	47
New Brunswick	5	81,219	87	2,701	383	934	31
Quebec	30	1,004,694	1,924	39,130	22,884	552	20
Ontario	64	1,396,634	1,839	41,993	93,867	759	23
Manitoba	7	241,665	261	6,677	21,947	926	26
Saskatchewan	6	100,966	132	3,219	4,152	765	24
Alberta	4	150,725	184	5,465	7,108	818	29
British Columbia	8	203,852	427	21,277	14,401	477	50
Totals	**138**	**3,359,703**	**5,004**	**127,627**	**168,932**	**671**	**25**

Subsection 6.—Penitentiary Statistics.

The Penitentiaries Branch of the Department of Justice is charged with the administration of the various penitentiaries in Canada. Six institutions are included in the system, the two largest of which are at Portsmouth, Ont., and St. Vincent de Paul, Que., while the other four are at Dorchester, N.B.; Prince Albert, Sask.; Stony Mountain, Man.; and New Westminster, B.C. During the fiscal year ended Mar. 31, 1930, the average daily population of these institutions was 2,868 and the total net expenditure for the year was $2,372,810, as compared with 2,643 average daily population and $1,621,101 total net expenditure for the year 1929.

All female convicts, numbering 27 on Mar. 31, 1925, 34 on Mar. 31, 1926, 39 on Mar. 31, 1927, 40 on Mar. 31, 1928, 32 on Mar. 31, 1929, and 38 on Mar. 31, 1930, are kept in the penitentiary at Portsmouth, a suburb of Kingston, where a special wing and staff are maintained for their detention and supervision. A new building to be used for this purpose is under construction.

Tables **39** to **41** give the more important penitentiary statistics as reported by the Superintendent. An increase of 418 is shown in the number of those in custody on Mar. 31, 1930, as compared with the same date in the previous year. The number of paroles as shown in Table **39** indicates a continued decrease from 634 in 1923 to 300 in 1926, though it rose to 377 in 1927, declined to 363 in 1928, rose to 384 in 1929, and fell again to 363 in 1930. Table **40,** showing the ages of convicts by groups, indicates that since 1923, when the total number in custody reached 2,486, there has been an increase in the average age of those in custody. In the last five years, the convicts under 30 increased from 1,301 to 1,837 or by 536, while the total number in custody increased by 842; so that convicts over 30 showed an actual increase but a proportional decrease. Detailed statistics of nationality, religion, conjugal state and racial origin are presented in Table **41.**

Population of Penal Institutions.—The penal institutions of Canada may be classified under four heads:—penitentiaries, distinguished by long sentences and comparatively slow turnover; reformatories for boys and reformatories for girls, also with a rather slow turnover, but more rapid in the case of boys than in that of girls; and lastly common gaols, where the turnover is extremely rapid. If the average population for the year be the average of the inmates at the beginning and end of the year, and the number discharged be the turnover, the turnover in 1929 was:—in penitentiaries, 44 p.c.; in reformatories for boys, 284 p.c.; in reformatories for girls, 117 p.c.; in gaols, no less than 1,690 p.c. Thus the average time spent in gaol is a little over three weeks.

38.—Population of Penal Institutions, 1927-1929.

Note.—Penitentiary statistics until 1919 were supplied directly by each penitentiary and were for the calendar year. For 1920 and subsequent years they have been supplied by the Superintendent of Penitentiaries and are for the fiscal year ended Mar. 31. For other institutions, the figures are as at Sept. 30.

Penal Institutions.	In Custody, beginning of year.	Admitted during year.	Discharged during year.	In Custody, end of year.
1927.				
Penitentiaries	2,474	1,045	1,039	2,480
Reformatories for boys	2,249	7,778	7,618	2,409
Reformatories for girls	431	419	409	441
Gaols	2,439	44,583	44,388	2,634
Totals	**7,593**	**53,825**	**53,454**	**7,964**
1928.				
Penitentiaries	2,480	1,202	1,112	2,560
Reformatories for boys	2,409	7,286	7,260	2,435
Reformatories for girls	441	497	501	437
Gaols	2,634	49,980	49,485	3,129
Totals	**7,964**	**58,965**	**58,368**	**8,561**
1929.				
Penitentiaries	2,560	1,383	1,174	2,769
Reformatories for boys	2,435	7,615	7,328	2,722
Reformatories for girls	437	465	494	408
Gaols	3,129	57,165	56,715	3,579
Totals	**8,561**	**66,628**	**65,711**	**9,478**

39.—Movement of Convicts, fiscal years ended Mar. 31, 1923-1930.

Schedule.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	No.	No.	No.	No.	No.	No.	No.	No.
In custody, beginning of fiscal year	2,640	2,486	2,225	2,345	2,473	2,480	2,560	2,769
Received—								
By forfeiture of parole	10	7	9	7	5	7	6	1
Paroles revoked	6	16	16	16	20	15	14	23
Recaptured	2	2	1	1	3	–	–	1
By transfer	100	18	14	94	15	9	110	187
From gaols, etc	935	827	928	1,014[1]	1,003	1,171[4]	1,253[4]	1,436
Totals	**3,693**	**3,356**	**3,193**	**3,477**	**3,519**	**3,682**	**3,943**	**4,417**
Discharged by—								
Death	21	16	14	17[5]	13[6]	16[5]	16	14
Escape	1	8[4]	–	6[4]	3	1[2]	2[3]	1
Expiry of sentence	342	377	342	473	535	647	577	559
Order of the Court	8	8	11	8	3	2	1	2
Pardon	5	31	12	9	7	11	10	15
Parole	634	566	366	300	377	363	384	363
Transfer	97	17	11	94	15	9	110	187
Deportation	89	100	82	92	80	70	61	77
Transferred to provincial gaol and executed	–	–	–	–	–	–	–	2
Return to provincial authorities	10	8	10	5	6	3	13	10
In Custody, end of fiscal year	**2,486**	**2,225**	**2,345**	**2,473**	**2,480**	**2,560**	**2,769**	**3,187**

[1] One from mental hospital. [2] From asylum. [3] One from asylum. [4] From provincial institutions: 2 in 1924, 5 in 1926, 2 in 1928 and 2 in 1929. [5] Includes 1 suicide. [6] While on temporary ticket-of-leave, 2.

40.—Ages of Convicts, as at Mar. 31, 1923-1930.

Age Group.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	No.	No.	No.	No.	No.	No.	No.	No.
Under 20 years	282	212	240	257	281	338	322	377
From 20 to under 30 years	1,158	968	1,061	1,087	1,036	1,137	1,274	1,460
From 30 to under 40 years	580	578	591	635	634	587	629	738
From 40 to under 50 years	292	287	292	321	364	336	357	395
From 50 to under 60 years	127	125	116	126	120	122	141	144
Over 60 years	47	55	45	47	45	40	46	73
Totals	**2,486**	**2,225**	**2,345**	**2,473**	**2,480**	**2,560**	**2,769**	**3,187**

41.—Convicts in Penitentiaries, Classified by Race, Nationality, Religion, etc., as at Mar. 31, 1923-1930.

Item.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	No.	No.	No.	No.	No.	No.	No.	No.
Totals	**2,486**	**2,225**[1]	**2,345**[2]	**2,473**	**2,480**	**2,560**	**2,769**	**3,187**
By Race—								
African	87	63	54	48	42	43	60	60[3]
Caucasian	2,303	2,065	2,198	2,327	2,354	2,409	2,589	2,995
Indian	44	42	50	54	43	50	49	52
Mongolian	49	51	40	44	41	58	71	80
East Indian	3	3	1	–	–	–	–	–

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[1] Includes 1 Arabian. [2] Includes 2 Eskimos. [3] All "coloured."

41.—Convicts in Penitentiaries, Classified by Race, Nationality, Religion, etc., as at Mar. 31, 1923-1930—concluded.

Item.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
		No.	No.	No.	No.	No.	No.	No.
By Nationality (Place of Birth)—								
British—								
Canadian	1,471	1,298	1,404	1,508	1,540	1,589	1,747	2,056
English and Welsh	165	167	170	183	177	197	209	240
Irish	34	37	35	31	40	35	49	31
Scotch	58	51	59	62	61	69	74	95
Other British	24	22	25	24	29	28	36	33
Foreign—								
Austrian and Hungarian	105	105	99	107	94	67	78	94
Chinese	43	46	37	36	37	53	62	74
Italian	69	60	58	65	77	75	66	60
Russian	121	110	97	91	76	85	75	119
United States	252	205	207	206	209	220	223	253
Other foreign	144	124	154	160	140	120	156	132
By Conjugal State—								
Single	1,577	1,317	1,411	1,485	1,534	1,597	1,680	1,967
Married	809	779	823	871	827	849	965	1,088
Widowed	100	127	110	116	115	110	121	123
Divorced	–	2	1	1	4	4	3	9
By Sex—								
Male	2,460	2,194	2,318	2,439	2,441	2,520	2,729	3,149
Female	26	31	27	34	39	40	32	38
By Social Habits—								
Abstainers	593	483	507	540	475	446	425	611
Temperate	1,309	1,255	1,374	1,549	1,491	1,611	1,840	2,033
Intemperate	584	487	464	384	514	503	504	543
By Religion—								
Anglican	367	354	370	392	381	409	480	546
Baptist	131	99	92	118	105	129	144	158
Buddhist	34	38	28	31	14	39	55	62
Greek Catholic	88	65	56	65	61	43	49	54
Jewish	59	49	51	53	44	37	53	62
Lutheran	50	33	51	65	58	58	62	74
Methodist	235	212	213	224	192	–	–	–
Presbyterian	282	272	285	269	269	272	284	318
Roman Catholic	1,176	1,025	1,130	1,201	1,281	1,272	1,337	1,561
United Church	–	–	–	–	3	233	233	273
Other creeds	58	72	64	47	57	68	72	79
No creed	6	6	5	8	15	–	–	–

Section 10.—The Civil Service of Canada.[1]

Prior to 1882, appointments to the Civil Service of Canada were made directly by the Government of the day. In that year, a Board of Civil Service Examiners was appointed to examine candidates and issue certificates of qualification to those successful at examinations. Appointments, however, were still made by the Government.

The Royal Commission of 1907, appointed to inquire into the Civil Service Act and its operation, reported in favour of the creation of a Civil Service Commission. In 1908 this body was appointed, consisting of two members appointed by the Governor in Council and holding office during good behaviour, but being removable by the Governor General on address of the Senate and House of

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[1] Revised by Wm. Foran, Secretary, Civil Service Commission, Ottawa.

Commons. The Civil Service was classified into three divisions under the Deputy Heads of Departments, each division consisting of two subdivisions, each of these having its scale of salaries. The Commission was charged with the organization of and appointments to the Inside Service (at Ottawa), certain appointments to be made after open competition and others after qualifying tests, also with holding qualifying examinations for the Outside Service (the Service apart from Ottawa) from which selections for appointments could be made by the various Departments. All British subjects between 18 and 35 years of age who had resided in Canada for three years were eligible to try these examinations.

In 1918 a third member of the Civil Service Commission was appointed, and by the Civil Service Act of that year the principle of appointment after open competition was applied to the Outside as well as the Inside Service. The Act also provided for the organization by the Commission of the various Government Departments, for a classification of all positions in the Service on a duties basis, for the establishing of new rates of compensation, and for the principle of promotion by merit whenever consistent with the best interests of the Service. Provision was also made for preference in the matter of appointment to the Service to be given to qualified applicants who had served in the Great War.

From April, 1924, a monthly return of personnel and salaries has been made by each Department to the Dominion Bureau of Statistics, according to a plan that ensures comparability between Departments and continuity in point of time. The institution of this system was preceded by an investigation back to 1912, the summary results of which are presented in Table **42.**

During the war years, as will be seen from Table **42,** the number of employees increased very rapidly, as a result of the enlargement of the functions of government and the imposition of new taxes, necessitating additional officials as collectors. Such new services as the Department of Pensions and National Health and the Soldier Settlement Board were also created. The maximum was reached in January, 1920, when 47,133 persons were employed, a number which has since decreased to 43,525 in January, 1930. It may be added that, out of 44,175 in March, 1930, 1,161 in the Income Tax Branch and 2,145 in the Department of Pensions and National Health, or 3,306 in all, were engaged in services of outstanding importance which had no existence before the war. Further, an additional 11,739 persons were, in March, 1930, employed in the Post Office Department, performing services of an industrial rather than of a governmental type, and receiving their salaries out of the payments of the public for services immediately rendered, rather than out of taxation. This postal service alone accounted for $2,727,756 of the $7,443,404 paid in salaries in March, 1930, or 36·65 p.c. of the total.

The statistics of numbers of employees and of salaries, now being secured monthly, are more comprehensive than those previously published, as a result of the inclusion of various classes of employees, largely "part-time", "seasonal" and "fees of office" employees, who were not included in the report published in 1925. These employees were largely in the Departments of Marine and Fisheries and Public Works. There remain, however, many persons in the "non-enumerated classes", whose numbers cannot be supplied monthly by the departmental officials, but whose compensation is included in the monthly figures of expenditure on personnel, as shown in Table **43.**

42.—Summary of Civil Service Employees (Permanent and Temporary) of the Government of Canada, together with Total Salaries, in the month of January of the years 1912-1930, inclusive.

Year.	Employees.	Salaries.	Bonus.	Salaries and Bonus.
	No.	$	$	$
1912	20,016	1,519,778	16,413	1,536,190
1913	22,621	1,780,703	22,569	1,803,272
1914	25,107	1,960,238	27,971	1,988,209
1915	28,010	2,268,700	32,167	2,300,867
1916	29,219	2,400,068	31,431	2,431,499
1917	32,435	2,673,767	29,167	2,702,934
1918	38,369	3,147,461	94,321	3,241,782
1919	41,825	3,552,686	557,882	4,110,568
1920	47,133	4,423,157	965,538	5,388,695
1921	41,957	4,414,669	861,973	5,276,642
1922	41,094	4,369,509	616,105	4,985,614
1923	38,992	4,268,357	463,470	4,731,827
1924	38,062	4,297,467	449,228	4,746,695
1925[1]	38,645	4,473,470	166,461	4,639,931
1926[1]	39,097	4,699,076	–	4,699,076
1927[1]	39,440	4,786,615	–	4,786,615
1928[1]	40,740	5,161,558	–	5,161,558
1929[1]	42,038	5,428,058	–	5,428,058
1930[1]	43,525	5,543,749	–	5,543,749

[1] Figures for January, 1925–30 are not comparable with those for preceding Januaries, because monthly records now being published include various classes of employees not included in the historical record for the 13 years 1912-24. In Table 43 will be found comparable figures of employees in the various Departments in March, 1929, and March, 1930.

Table 43, which gives statistics by Departments, with a further classification by principal branches where such are recorded, is inserted to give comparable figures for the latest months. In the month of March, 1930, the total number of employees in the enumerated classes was 44,175 and the total expenditure in wages and salaries for all classes of employees was $7,443,403.91, as compared with 42,790 and $7,388,529.85 respectively in March, 1929.

43.—Total Number of Civil Service Employees, by Departments and Principal Branches ("Non-Enumerated Classes" Excluded), and Total Expenditure on Salaries, and Wages of All Employees ("Non-Enumerated Classes" Included), March, 1929, and March, 1930.

Department.	March, 1929.		March, 1930.	
	No.	Expenditure.	No.	Expenditure.
		$		$
1. Agriculture—				
Main Department	945	136,200·51	1,048	150,558·68
Experimental Farms	436	110,794·33	455	116,732·83
Health of Animals	581	102,128·94	610	103,624·82
Totals, Agriculture	1,962	349,123·78	2,113	370,916·33
2. Archives	83	13,051·83	83	13,453·86
3. Auditor-General	202	31,163·32	205	32,434·33
4. Civil Service Commission[1]	157	20,841·48 [2]	173	22,229·64
5. Chief Electoral Officer	4	500·00	10	1,147·83
6 External Affairs—				
Main Department	76	10,829·42	80	11,719·27
The High Commissioner's Office	32	4,988·63 [3]	36	5,259·84[3]
Canadian Legation, Washington	18	4,286·44 [3]	17	4,018·00[3]
Canadian Legation, Paris	13	7,402·06[3]	13	2,395·99[3]
The League of Nations	4	1,203·33 [3]	4	1,202·57[3]
Canadian Legation, Tokyo, Japan	–	–	4	1,331·75[3]
Totals, External Affairs	143	28,709·88	154	25,927·42
7. Finance	414[4]	48,356·06	419[5]	50,145·47
8. Governor General's Secretary[6]	10	2,850·11	10	2,865·11

For footnotes see end of Table p. 1073.

43.—Total Number of Civil Service Employees, by Departments and Principal Branches ("Non-Enumerated Classes" Excluded), and Total Expenditure on Salaries and Wages of All Employees ("Non-Enumerated Classes" Included), March 23, 1929, and March, 1930—continued.

Department.	March, 1929.		March, 1930.	
	No.	Expenditure.	No.	Expenditure.
		$		$
9. House of Commons—				
Clerk of the House	217	40,939·74	220	44,161·60
Sergeant-at-Arms	295	24,651·31	236	20,986·66
Totals, House of Commons	512	65,591·05	456	65,148·26
10. Immigration and Colonization	924	118,213·96	955	122,268·21
11. Indian Affairs—				
Main Department	624	59,011·16	669	63,624·45
Educational Branch	364	22,749·00	366	23,294·00
Totals, Indian Affairs	988	81,760·16	1,035	86,918·45
12. Insurance	38	7,607·66	38[4]	7,425·16
Fire Prevention Branch	2	525·00	2	530·00
13. Interior	2,323	351,135·16	2,415	364,759·16
14. International Joint Commission	5	2,393·33	5	2,393·33
15. Justice—				
Main Department	44	9,311·68	45	9,882·03
Clemency Branch	10	2,016·74	10	2,048·37
Purchasing Agent's Office	6	890·00	7	995·00
Penitentiaries	588	76,184·75	614	80,025·42
Supreme Court	22	3,787·76	22	3,876·75
Exchequer Court	9	1,676·74	9	1,490·00
Totals, Justice	679	93,867·67	707	98,317·57
16. Labour—				
Main Department	115[7]	18,088·59	115	18,695·23
Annuities	20	2,515·00	24	2,925·00
Technical Education	2	376·74	2	376·66
Totals, Labour	137	20,980·33	141	21,996·89
17. Library of Parliament	21	4,293·62	24	4,691·12
18. Marine and Fisheries—				
Marine Branch	3,445	373,578·07	3,537	419,360·45
Fisheries Branch[8]	348	98,772·34	381	108,519·22
Meteorological Branch	527	16,049·08	543	16,459·65
Totals, Marine and Fisheries	4,320	488,399·49	4,461	544,339·32
19. Mines	361	65,923·30	383	69,548·40
20. National Defence—				
General Defence Administration	271	38,526·37	271	38,613·99
Dominion Arsenal, Quebec, inc. Ammun. Inspection	58	29,703·30	59	26,364·03
Militia Services	547	51,381·67	562	52,795·84
Naval Services	153	36,106·15	156	33,705·51
Air Services	75	9,080·86	95	11,625·39
Military Topographic Surveys	23	4,516·74	25	4,796·74
Royal Military College	75	10,283·49	76	10,538·13
Northwest Territories	4	660·00	–	–
Totals, National Defence	1,206	180,258·58	1,244	178,439·63
21. National Revenue	4,781	684,241·13	4,970	725,197·60
Income Tax Division	1,154	156,222·34	1,161	156,844·75
Totals, National Revenue	5,935	840,463·47	6,131	882,042·35
22. Pensions and National Health—				
Pensions	1,782	224,848·00	1,944	234,949·00
Board of Pension Commissioners	135	24,753·99	147	25,605·88
Health	366	35,776·82	373	51,155·59
Federal Appeal Board	49	10,559·66	54	11,094·99
Totals, Pensions and National Health	2,332	295,938·47	2,518	322,805·46

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[1] Including Commissioners and their salaries. [2] Including arrears. [3] Including living allowance.
[4] Including one employee on leave without pay. [5] Including four employees on leave without pay.
[6] Salaries of A.D.C.'s are included, but not their number. [7] Including two employees on leave without pay.
[8] Including settlement of B.C. and N.S. paylists for February and March.

43.—Total Number of Civil Service Employees, by Departments and Principal Branches ("Non-Enumerated Classes" Excluded), and Total Expenditure on Salaries and Wages of All Employees ("Non-Enumerated Classes" Included), March, 1929, and March, 1930—concluded.

Department.	March, 1929.		March, 1930.	
	No.	Expenditure.	No.	Expenditure.
		$		$
23. Post Office—				
Civil Government	883	114,521·38	927	127,338·80
Outside Service	10,632	2,729,882·43	10,812	2,600,417·69
Totals, Post Office	11,515	2,844,403·81	11,739	2,727,756·49
24. Privy Council	20	4,091·85	20	4,028·37
25. Public Printing and Stationery	714	109,127·03	715	112,730·90
26. Public Works—				
Civil Government	333	57,111·33	337	56,286·60
Outside Service	2,978	344,933·76	3,111	357,769·49
Government Telegraph Service	692	52,591·42	582	52,101·82
Totals, Public Works	4,003	454,636·51	4,030	466,157·91
27. Railways and Canals	1,259	351,428·85	1,267	295,694·93
Board of Railway Commissioners	103	23,392·83	111	25,041·04
28. Royal Canadian Mounted Police	58	94,041·86	70	108,272·03
29. Secretary of State	107	13,961·93	113	14,750·36
Patents and Copyrights	99	14,091·79	103	14,836·74
30. Senate	119	16,277·49	122	16,612·24
31. Soldiers' Settlement Board	538	79,006·11	528	78,606·88
32. Trade and Commerce—				
Headquarters and Miscellaneous Branches	119	21,938·34	100	19,354·41
Board of Grain Commissioners	840	152,028·29	823	131,437·75
Dominion Bureau of Statistics	245	29,746·14	239	29,572·70
Weights and Measures	126	19,631·74	128	20,206·61
Electricity and Gas	91	15,605·00	95	16,260·48
Commercial Intelligence Service	76	33,172·57	79	39,054·21
Motion Picture Bureau	–	–	20	3,260·00
Exhibitions	–	–	32	7,172·34
Canadian Government Elevators	–	–	159	21,854·22
Totals, Trade and Commerce	1,497	272,122·08	1,675	288,172·72
Grand Totals	**42,790**	**7,388,529·85**	**44,175**	**7,443,403·91**

Section 11.—Other Miscellaneous Administration.

In previous editions of the Canada Year Book, this chapter has been brought to a close with outlines of Dominion Government administration as follows:—

Section 11.—Harbour Commissions.
Section 12.—The International Joint Commission.
Section 13.—The Geodetic Survey of Canada.
Section 14.—The Topographical Survey.
Section 15.—The Dominion Observatories.
Section 16.—The Advisory Board on Tariff and Taxation. (This board was dissolved by Order in Council P.C. 1931, dated Aug. 8, 1930).

Since no material change has been made in these sections, other than that noted in Section 16, they have not been reprinted in this edition and the interested reader is referred to pp. 1013-18 of the 1930 Year Book for this information.

CHAPTER XXVIII.—SOURCES OF OFFICIAL STATISTICAL AND OTHER INFORMATION RELATIVE TO CANADA.

The chief source of information on the current state of the country is the Dominion Bureau of Statistics, organized as the central statistical bureau for Canada, and described in the first part of this chapter; a list of its publications, which cover almost the whole field of the national statistics, is given in Section 1.

The second section of the chapter contains a list of the Acts of Parliament administered by the several departments of the Dominion Government, and the third section a bibliography of the publications of these departments. This is followed, in Section 4, by a bibliography of the publications of Provincial Governments.

Section 1.—The Dominion Bureau of Statistics.[1]

The Dominion Bureau of Statistics was set up by Statute in 1918 as a central statistical department for Canada (8-9 Geo. V. c. 43). The Act was a consolidation of all previous statistical legislation and was based on the report of a Commission on Statistics, appointed in 1912, which recommended (a) a series of specific reforms and enlargements in Canadian statistics, and (b) a policy of statistical co-ordination for the Dominion, under central direction. In 1915, following the recommendations in this report, the office of Dominion Statistician was created.

The Bureau has been constituted by the transfer or absorption, by Orders in Council, of the following work and branches:—(1) the Census and Statistics Office (covering the census, and also agriculture, general manufactures and criminal statistics), (2) Fisheries Statistics, (3) Mining Statistics, (4) Forestry Statistics, (5) Dairying and Fruit Statistics, (6) Water- and Electric-Power Statistics, (7) the Railways and Canals Statistical Branch of the Department of Railways and Canals, (8) the Trade Statistical Branch (exports and imports), (9) Grain Trade Statistics, (10) Live-Stock Statistics, (11) Prices Statistics, and (12) Employment Statistics. In addition four new branches were created, dealing respectively with Public Finance, Internal Trade, Vital Statistics and Education. Subsequently the statistical activities of the Fuel Controller and the Board of Commerce were absorbed. Modifications of the Bankruptcy, Public Health and Railway Acts, and of the regulation *re* franking privileges were also made, with a view to facilitating the collection of statistics.

The Bureau has completed the plans for a unified, nation-wide statistical system, covering every important phase of social and economic activity, and has carried them out to a considerable degree.

The main achievement of the Bureau has been in the organization of the several subjects in correlation with each other in accordance with this general plan, and the consequent establishment of a comprehensive viewpoint of the country as a "going concern". In addition, there has been created what is frequently called a central "thinking office" in statistics, continuously in touch with general conditions and the line of probable developments.

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[1] A more complete account of the formation and activities of the Bureau of Statistics will be found on pp. 961-964 of the 1922-23 Year Book.

The final concept in the organization of the Bureau of Statistics is that of a national laboratory for social and economic research. Statistics are not merely a record of what has been, but are for use in planning what shall be; it is the duty of a statistical bureau to assist directly in the day-to-day problems of administration, as well as to provide their theoretic background. One of the most significant of recent developments in administration is the extent to which statistical organization has been increased as a guide to national policy. Though its usefulness has only begun, the Dominion Bureau of Statistics has laid the foundations for a service comparable with the increasingly important position taken by Canada in the economic and political world.

Publications of the Bureau.—The first annual report of the Dominion Statistician contained a full description of the organization of the Bureau and of its subject matter.[1] The main Divisions of the Bureau are as follows:—I. Administration; II. Population—Census and Vital Statistics; III. Agricultural Statistics; IV. Fisheries, Furs and Dairy Products; V. Mining, Metallurgical and Chemical; VI. Forestry and Allied Industries; VII. General Manufactures; VIII. External Trade (Imports and Exports); IX. Internal Trade; X. Transportation; XI. Financial Statistics; XII. Statistics of Administration of Justice; XIII. Education Statistics; XIV. General Statistics. The publications of the several Divisions are as follows:—

ADMINISTRATION—

Annual Report of the Dominion Statistician.

POPULATION—

Census—

I. Census of Population and Agriculture, 1921.

Bulletins of the Sixth Census of Canada, 1921, as follows:—

(1) Population:—*(a)* Population of Canada, 1921, by Provinces, Electoral Districts, Cities, Towns, etc. *(b)* Religions of the People, 1921. *(c)* Origins of the People, 1921. *(d)* Dwellings and Families, 1921. *(e)* Birthplaces of the People, 1921. *(f)* Citizenship of the Foreign-born, 1921. *(g)* Year of Immigration, 1921. *(h)* Ages of the People, 1921. *(i)* Conjugal Condition of the People, 1921. *(j)* Language Spoken and Mother Tongue, 1921. *(k)* Literacy, 1921. *(l)* School Attendance, 1921. *(m)* Occupations, 1921. *(n)* Children in Gainful Occupations, 1921. Also bulletins on population by provinces as follows: *(a)* Population of Nova Scotia—Electoral Districts, etc. *(b)* Population of Prince Edward Island—Electoral Districts, etc. *(c)* Population of New Brunswick—Electoral Districts, etc. *(d)* Population of Quebec—Electoral Districts, etc. *(e)* Population of Ontario—Electoral Districts, etc. *(f)* Population of Manitoba—Electoral Districts, etc. *(g)* Population of Saskatchewan—Electoral Districts, etc. *(h)* Population of Alberta—Electoral Districts, etc. *(i)* Population of British Columbia—Electoral Districts, etc.

(2) Agriculture: *(a)* Field Crops of Prairie Provinces, 1921. *(b)* Agriculture of Canada—General Summary. *(c)* Pure-bred Domestic Animals, 1921. *(d)* Agriculture of Nova Scotia, 1921. *(e)* Agriculture of Prince Edward Island, 1921. *(f)* Agriculture of New Brunswick, 1921. *(g)* Agriculture of Quebec, 1921. *(h)* Agriculture of Ontario, 1921. *(i)* Agriculture of Manitoba, 1921. *(j)* Agriculture of Saskatchewan, 1921. *(k)* Agriculture of Alberta, 1921. *(l)* Agriculture of British Columbia, 1921.

Reports of the Sixth Census of Canada, 1921, as follows:—

Vol. I. Introduction—Number, Sex and Distribution—Racial Origins—Religions.

Vol. II. Ages—Conjugal Condition—Birthplace—Birthplace of Parents—Year of Immigration and Naturalization—Language Spoken and Mother Tongue—Literacy—School Attendance—Blindness and Deaf-Mutism.

Vol. III. Families—Dwellings—Ownership of Homes—Rentals—Earnings.

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[1] This report for the year ended Mar. 31, 1919, is now out of print.

POPULATION—concluded.

Vol. IV. Occupations and Employment.
Vol. V. Agriculture. Farm holdings by size, tenure, value, etc.—Farm Products—Field Crops—Vegetables—Fruits—Forest Products—Live Stock—Animal Products—Statistics of Operators.

Census Monographs, 1921.

Illiteracy and School Attendance in Canada.
Origin, Birthplace, Nationality and Language of the Canadian People.

II. Census of Population, etc., 1911.

Reports of the Fifth Census of Canada, 1911: Vol. I. Areas and Population by Provinces, Districts and Subdistricts, with Introduction. Tables I to XV, pp. i-viii, 1-623. Vol. II. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmities by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-xvii, 1-654. Vol. III. Manufactures for 1910 as enumerated in June, 1911, with Introduction. Tables I-XX, pp. i-xvi, 1-432. Vol. IV. Agriculture, with Introduction. Tables 1-90, I-XXXV, pp. i-xcv, 1-428. Diagrams 5 pp. Vol. V. Forest, Fishery, Fur and Mineral Production, with Introduction. Tables 1-51, I-XXVI, pp. i-l, 1-171. Vol. VI. Occupations of the People, with Introduction. Tables 1-25, I-VI, pp. i-xxxi, 1-469.

Bulletins of the Fifth Census of Canada, 1911: Manufactures of Canada—Dairy Industries—Agriculture, Prince Edward Island—Agriculture, Nova Scotia—Agriculture, New Brunswick—Agriculture, Quebec—Agriculture, Ontario—Agriculture, Manitoba—Agriculture, Saskatchewan—Agriculture, Alberta—Agriculture, British Columbia—Religions—Origins of the People—Birthplace of the People—Educational Status—Mineral Production—Infirmities—Ages—School Attendance.

Special Report on the Foreign-born Population. (Abstracted from the Records of the Fifth Census of Canada, June, 1911: 23 Tables, 62 pp., 1915.)

III. Census of Population and Agriculture of the Prairie Provinces, 1926.

Report of the Census of Population and Agriculture of the Prairie Provinces, 1926.

Census of Manitoba—Population and Agriculture.
Census of Saskatchewan—Population and Agriculture.
Census of Alberta—Population and Agriculture.

Preliminary Bulletins, as follows: *(a)* Population of Manitoba—Electoral Districts, etc. *(b)* Population of Saskatchewan—Electoral Districts, etc. *(c)* Population of Alberta—Electoral Districts, etc. *(d)* Animals on Farms in the Prairie Provinces, 1926. *(e)* Farm Lands and Crops in the Prairie Provinces, 1926.

IV. Census of Population and Agriculture of the Prairie Provinces, 1916.

Report of the Census of Population and Agriculture of the Prairie Provinces, 1916. Tables 1-54. I-XLII (Population), I-XXVI (Agriculture), pp. i-lxiv, 1-356.

V. Intercensal Estimates of Population.

Births, Deaths and Marriages—

VI. Vital Statistics.

Annual Report on Vital Statistics of Canada by Provinces and Municipalities.
Monthly Report of Births, Deaths and Marriages registered in Cities.
Report of Conference on Vital Statistics, held June 19-20, 1918, pp. 1-48.
Special Report on Contributory Causes of Death, 1926.
Order of Birth in the Registration Area of Canada, 1925.

PRODUCTION—

I. General Summary of Production.

Including and differentiating (gross and net) (1) Primary Production (Agriculture, Fishing, Furs, Forestry and Mining) and (2) Secondary Production, or General Manufactures.

II. Agriculture.

(1) Agricultural Production.

Monthly Bulletin of Agricultural Statistics. The official record of current statistical data relating to agriculture. (Contains reports on agricultural conditions, prices, weather, etc.—estimates of areas, yields, quality and value of field crops—value of farm lands—wages of farm help—number and values of farm live stock and poultry—statistics of fruit and floriculture—

PRODUCTION—continued.

dairying—tobacco—hives and honey—maple syrup and sugar—clover and grass seed—miscellaneous crops—stocks of grain—annual summary of value of agricultural production—index numbers of agricultural prices, yields and values—international agricultural statistics.)

Advance Summaries of Agricultural Statistics.

Telegraphic Crop Reports (between the first of June and the first of September, weekly for the Prairie Provinces and every two weeks for the rest of Canada).

Agricultural Statistics by Counties and Crop Districts, 1922-24 and 1925-29.

Annual Statistics of Fruit and Floriculture, latest issue, 1930.

Handbook for the Use of Crop Correspondents, with Selection of Annual Agricultural Statistics, 1908-26.

[See also Censuses of Agriculture above.]

(2) Grain and Grain Products.

(a) Annual Report on the Grain Trade of Canada; *(b)* Monthly Review of the Wheat Situation; *(c)* Canadian Grain Statistics—weekly report on grain supplies and movements; *(d)* Canadian Milling Statistics—monthly; *(e)* List of Mills with Capacity.

(3) Live Stock and Animal Products.

(a) Annual Report on Live Stock and Animal Products; *(b)* Monthly Report on Stocks in Cold Storage; *(c)* Estimated Consumption of Meats, Butter, Cheese, Eggs and Poultry in Canada.

(4) Other.

Monthly Report on Raw and Refined Sugar (visible supply, meltings, shipments, exports and imports).

III. Furs.

Annual Report on Fur Farms.
Annual Report on the Production of Raw Furs (wild-life).

IV. Fisheries.

Annual Report on Fisheries Statistics.
Advance Summaries on Fish Caught and Marketed by Provinces.

V. Forestry.

Annual Summary of the Value, etc., of Forest Production. (Covers operations in the woods for saw-mills, shingle mills, pulp and paper mills, etc., production of mining timber; production of poles and cross ties, and farm production (decennial) of firewood, posts, etc.)

[See also Reports on Manufactures of Forestry Products listed under "Manufactures" Section VII, subsection (5).]

VI. Mineral Production: (Mining and Metallurgy.)

(1) General.

(a) Annual Report on the Mineral Production of Canada; *(b)* Preliminary Reports (semi-annual) on the Mineral Production of Canada; *(c)* Monthly Report on Leading Minerals; *(d)* Special Report on the Consumption of Mine and Mill Materials in Canada.

(2) Coal.

(a) Annual Report on Coal Statistics for Canada; *(b)* Monthly Summary Report on Coal and Coke Statistics for Canada; *(c)* Quarterly Report on Coal and Coke Statistics for Canada.

(3) Annual Bulletins on Mining as follows:—

1. *Metals—(a)* Arsenic; *(b)* Cobalt; *(c)* Copper; *(d)* Gold; *(e)* Lead; *(f)* Nickel; *(g)* Metals of the Platinum Group; *(h)* Silver; *(i)* Zinc; *(j)* Miscellaneous Metals, including Aluminium, Antimony, Chromite, Iron Ore, Manganese, Mercury, Molybdenum, Tin, Tungsten.
2. *Non-Metallic Minerals—(a)* Abrasives; *(b)* Asbestos; *(c)* Coal; *(d)* Feldspar; *(e)* Gypsum; *(f)* Iron Oxides; *(g)* Mica; *(h)* Natural Gas; *(i)* Petroleum; *(j)* Quartz; *(k)* Salt; *(l)* Talc and Soapstone; *(m)* Miscellaneous Non-Metallic Minerals, including Actinolite, Barytes, Fluorspar, Graphite, Magnesite, Magnesium Sulphate, Mineral Waters, Natro-Alunite, Peat, Phosphate, Pyrites, Sodium Carbonate, Sodium Sulphate; *(n)* Special Report on the Consumption of Prepared Non-Metallic Minerals in Canada.
3. *Structural Materials—(a)* Cement; *(b)* Clay and Clay Products; *(c)* Lime; *(d)* Sand and Gravel; *(e)* Stone.

PRODUCTION—continued.

4. *Mining Industries*—*(a)* Gold Mining Industry (including Alluvial-Gold Mining, Auriferous Quartz Mining and Copper-Gold-Silver Mining); *(b)* Silver, Cobalt and Silver-Lead-Zinc Mining Industry; *(c)* Nickel-Copper Mining Industry; *(d)* Miscellaneous Metal Mining Industries; *(e)* Non-Ferrous Smelting and Refining Industry; *(f)* Coal Mining, Coke, Natural Gas, Peat and Petroleum Industries; *(g)* Miscellaneous Non-Metal Mining Industries; *(h)* Clay Products and Other Structural Materials Industries; *(i)* Special Summary Report on the Mineral Industry and the Manufacturing Industries Related Thereto.
5. *Provincial Reviews*—Summary Bulletins showing Mineral Production for *(a)* Nova Scotia; *(b)* New Brunswick; *(c)* Quebec; *(d)* Ontario; *(e)* Manitoba; *(f)* Saskatchewan; *(g)* Alberta; *(h)* British Columbia; *(i)* Yukon.

[See also Reports on Iron and Steel and their Products, Manufactures of Non-Ferrous Metals, and Chemicals and Allied Products, listed under "Manufactures", Section VII, Subsections (6), (7), (8) and (9).]

VII. Manufactures.

(1) General—General Summary for Canada, also for the Provinces and Leading Cities (industrial groups classified by component materials, purposes, etc., of products—comparative statistics).

(2) Manufactures of Vegetable Products—Annual Bulletins as follows: *(a)* Coffee and Spices; *(b)* Fruit and Vegetable Preparation, including canning, evaporating and preserving; *(c)* Pickles, Sauces, Vinegar and Cider; *(d)* Flour and Grist Mill Products (see also under heading "Agriculture"); *(e)* Bread and other Bakery Products; *(f)* Biscuits and Confectionery including Cocoa and Chocolate; *(g)* Macaroni and Vermicelli; *(h)* Liquors, Distilled; *(i)* Liquors, Malt; *(j)* Liquors, Vinous; *(k)* Rubber Goods and Rubber Boots and Shoes; *(l)* Starch Oil and Glucose; *(m)* Sugar Refineries; *(n)* Tobacco Products; *(o)* Linseed Oil and Oil Cake; *(p)* The Canned Foods Industry; *(q)* Ice Cream; *(r)* Pack of Fruits and Vegetables.

(3) Animal Products and their Manufactures—Annual Reports and Bulletins as follows: *(a)* The Dairy Factory Industry; *(b)* Slaughtering and Meat Packing and Allied Industries; *(c)* Fish and Fish Products; *(d)* Leather Tanneries; *(e)* Harness and Saddlery, Leather Belting, Trunks and Valises, Miscellaneous Leather Goods; *(f)* Leather Boots and Shoes, Leather Boot and Shoe Findings; *(g)* Leather Gloves and Mitts; *(h)* Fur Goods, Fur Dressing. Monthly Report on Boot and Shoe Production. Monthly Report on Concentrated Milk Products.

[See also Reports on Live Stock, etc., listed under "Agriculture".]

(4) Textile and Allied Industries—General Report on The Textile Industries of Canada, 1917-26—Annual Bulletins as follows: *(a)* Cotton Textiles (cloth, yarn, thread and waste); *(b)* Woollen Textiles (cloth, yarn, waste, carpets, etc., and woollen goods, n.e.s.); *(c)* The Silk Industry; *(d)* Clothing, Men's Factory; *(e)* Clothing, Women's Factory; *(f)* Hats and Caps; *(g)* Hosiery and Knit Goods; *(h)* Men's Furnishings, n.e.s.; *(i)* Oiled Clothing and Waterproofs; *(j)* Cordage, Rope and Twine; *(k)* Corsets; *(l)* Cotton and Jute Bags; *(m)* Dyeing, Cleaning and Laundry Work.

(5) Manufactures of Forestry Products—Annual Reports as follows: (1) The Lumber Industry; (2) The Pulp and Paper Industry; (3) Wood-Using Industries; (4) Paper-Using Industries. Biennial Report: Lumber Distribution in Canada and the United States. Preliminary Reports as follows: *(a)* The Lumber Industry; *(b)* The Pulp and Paper Industry; *(c)* Planing Mills, Sash and Door Factories; *(d)* Furniture; *(e)* Boxes, Baskets and Crates; *(f)* Carriages, Wagons and Materials; *(g)* Cooperage; *(h)* Coffins and Caskets; *(i)* Sporting Goods; *(j)* Boats and Canoes; *(k)* Lasts, Trees and Shoe Findings; *(l)* Handles, Spools and Turnery; *(m)* Woodenware; *(n)* Excelsior; *(o)* Miscellaneous Wood Products; *(p)* Printing and Publishing; *(q)* Printing and Bookbinding; *(r)* Lithographing, Engraving, etc.; *(s)* Paper Boxes and Bags; *(t)* Stationery and Envelopes; *(u)* Roofing Paper, Wallboard, etc.; *(v)* Miscellaneous Paper Goods.

(6) Iron and Steel and Their Products—General Report. Annual Bulletins as follows: *(a)* Pig Iron and Ferro-Alloys; *(b)* Steel and Rolled Products; *(c)* Castings and Forgings; *(d)* Agricultural Implements; *(e)* Boilers and Engines; *(f)* Machinery; *(g)* Automobiles; *(h)* Automobile Accessories; *(i)* Bicycles; *(j)* Railway Rolling Stock; *(k)* Wire and Wire Goods; *(l)* Sheet Metal Products; *(m)* Hardware and Tools; *(n)* Miscellaneous Iron and Steel Products. Monthly Reports on *(a)* Iron and Steel, *(b)* Automobile Statistics.

PRODUCTION—concluded.

(7) *Manufactures of Non-ferrous Metals*—General Report. Annual Bulletins as follows: *(a)* Aluminium Ware; *(b)* Brass and Copper Products; *(c)* Lead, Tin and Zinc Products; *(d)* Manufactures of the Precious Metals; *(e)* Electrical Apparatus and Supplies; *(f)* Miscellaneous Non-Ferrous Metal Goods.

(8) *Manufactures of the Non-Metallic Minerals*—General Report. Annual Bulletins as follows: *(a)* Aerated Water; *(b)* Asbestos and Allied Products; *(c)* Cement; *(d)* Cement Products; *(e)* Coke and By-Products; *(f)* Gas, Illuminating and Fuel; *(g)* Glass (blown, cut, ornamental, etc.); *(h)* Lime; *(i)* Petroleum Products; *(j)* Products from Domestic Clays; *(k)* Products from Imported Clays; *(l)* Salt; *(m)* Sand-Lime Brick; *(n)* Stone. Bulletins as follows: *(a)* Aerated Waters; *(b)* Asbestos and Allied Products, including: (1) Artificial Abrasives, (2) Abrasive Products, (3) Artificial Graphite and Electrodes, (4) Gypsum Products, (5) Mica Products, (6) Miscellaneous Non-Metallic Products, n.e.s.; *(p)* Report on the Consumption of Coke, by Industries, in Canada.

(9) *Chemicals and Allied Products*—General Report. Annual Bulletins as follows: *(a)* Coal Tar and Its Products; *(b)* Acids, Alkalies, Salts and Compressed Gases; *(c)* Explosives, Ammunition, Fireworks and Matches; *(d)* Fertilizers; *(e)* Medicinal and Pharmaceutical Preparations; *(f)* Paints, Pigments and Varnishes; *(g)* Soaps, Washing Compounds and Toilet Preparations; *(h)* Inks, Dyes and Colours; *(i)* Wood Distillates and Extracts; *(j)* Miscellaneous Chemical Industries (including adhesives, baking powder, boiler compounds, celluloid products, flavouring extracts, insecticides, polishes and dressings, sweeping compounds, etc). Special Report on The Fertilizer Trade in Canada.

(10) *Miscellaneous Manufactures*—Annual Bulletins as follows: *(a)* Brooms, Brushes and Mops; *(b)* Musical Instruments (including pianos, organs and phonographs) and Musical Instrument Materials and Parts; *(c)* Buttons; *(d)* Beds, Springs and Mattresses.

N.B.—For Statistics of Water Power and Central Electric Stations, see under heading "Public Utilities".

VIII. Construction.—(a) Building Permits—Monthly Record.

EXTERNAL TRADE (IMPORTS AND EXPORTS)—

(1) Annual Report of the Trade of Canada, for the fiscal year ended Mar. 31 (showing summary historical tables, analyses of current trends, detailed tables by items, group analyses according to component material, origin and degree of manufacture, and purpose, and comparisons of the volume of trade).

(2) Condensed Preliminary Report of the Trade of Canada, for the fiscal year ended Mar. 31.

(3) Annual Report of the Trade of Canada for the calendar year.

(4) Advance Preliminary Statement regarding the Trade of Canada during the calendar year.

(5) Quarterly Report of the Trade of Canada (showing statistics of imports and exports by months).

(6) Monthly Summary of the Trade of Canada for latest month and 12 months).

(7) Monthly Bulletins on Trade Statistics as follows: *General.—(a)* Abstract of Imports, Exports, and Duty Collected (by latest month, accrued period, and latest 12 months); *(b)* Summary of Canada's Imports for latest month; *(c)* Summary of Canada's Exports for latest month. *Special.—(d)* Imports and Exports of Asbestos; *(e)* Imports and Exports of Footwear (except Rubber); *(f)* Summary, Exports of Grain and Flour; *(g)* Exports of Lumber; *(h)* Imports of Lumber; *(i)* Exports of Meats and Lard; *(j)* Imports of Meats and Lard; *(k)* Exports of Milk, Milk Products and Eggs; *(l)* Imports of Milk, Milk Products and Eggs; *(m)* Exports of Non-Ferrous Ores and Smelter Products; *(n)* Imports of Non-Ferrous Ores and Smelter Products; *(o)* Exports of Paints and Varnishes; *(p)* Imports of Paints and Varnishes; *(q)* Exports of Pulp Wood, Wood Pulp and Paper; *(r)* Exports of Rubber Goods and Insulated Wire; *(s)* Imports of Rubber Goods; *(t)* Exports of Vehicles of Iron (Automobiles, Bicycles, Railway Cars, etc.); *(u)* Imports of Vehicles of Iron (Automobiles, Bicycles, Railway Cars, etc.); *(v)* Exports of Petroleum and Its Products; *(w)* Imports of Petroleum and Its Products; *(x)* Imports of Sheet Metal Products.

INTERNAL TRADE—

(1) Prices Statistics.

Annual and Monthly Reports on Wholesale and Retail Prices and Price Indexes in Canada.

Annual and Monthly Reports on Wholesale and Retail Prices and Price Indexes in the British Empire and Foreign Countries.

Index Numbers of Average Cost of Living in Canada.

Monthly and Weekly Index Numbers (Speculative) of Security Prices.

Monthly and Weekly Index Numbers (Investment) of Security Prices.

Monthly and Weekly Index Numbers of Mining Stocks.

Prices and Price Index Numbers of Services (Street Cars, Telephones, Electricity, Natural and Manufactured Fuel Gas, Hospitals, Doctors' Fees, etc.).

Interest and Exchange Rates.

Index Numbers of Import and Export Valuations.

Special Bulletins as follows: *(a)* Post-War Sugar Prices; *(b)* Post-War Prices of Raw Cottons; *(c)* Post-War Silver Prices; *(d)* Post-War Tin Prices; *(e)* Post-War Copper Prices; *(f)* Post-War Lead Prices; *(g)* Gasolene Prices; *(h)* Coffee Prices; *(i)* Wool Prices; *(j)* Post-War Rubber Prices; *(k)* Price Trends and Economic Conditions in Germany (May, 1927); *(l)* Price Trends and General Economic Conditions in France (May, 1927); *(m)* Price Trends and General Economic Conditions in Great Britain (May, 1927); *(n)* Wholesale Prices in the British Empire and Foreign Countries, and Exchange Rates in 1925 (with reference to important trade tendencies in the leading countries); *(o)* Trend of Commodity Prices in Canada, Past and Future.

(2) Trading Establishments.

Decennial Census of Wholesale and Retail Trading Establishments.

Annual Statistics of Chain Stores.

(3) Capital Movements.

Annual Records and Estimates of Capital Investments by Foreigners in Canada and of Canadian Investments in Foreign Countries.

(4) Balance of International Payments.

Compilation of Canada's Annual Balance of Payments.

Estimation of the Invisible Items in Canada's Trade Balance (Receipts and Payments for Interest, Freight, Insurance, Non-Commercial Remittances, Government Expenditures, Capital of Immigrants and Emigrants, etc.).

(5) Retail Sales.

Index Numbers of Retail Sales.

TRANSPORTATION, COMMUNICATIONS AND PUBLIC UTILITIES—

(1) Railways and Tramways.—(a) Annual Report on Railway Statistics; *(b)* Annual Report on Electric Railway Statistics; *(c)* Monthly Bulletin on Railway Revenues, Expenses, Incomes and Operating Statistics; *(d)* Monthly Statement of Traffic of Railways; *(e)* Weekly Report of Carloadings of Revenue Freight.

(2) Express.—Annual Report on Express Statistics.

(3) Telegraphs.—Annual Report on Telegraph Statistics.

(4) Telephones.—Annual Report on Telephone Statistics.

(5) Water Transportation.—(a) Annual Report on Canal Statistics; *(b)* Monthly Report on Canal Statistics; *(c)* Report of Census of Canadian Registered Ships.

(6) Electrical Stations.—(a) Annual Report on Central Electric Stations in Canada; *(b)* Report on Index Numbers of Electric Light Rates; *(c)* Monthly Report on Electric Energy Generated—included in Monthly Review of Business Statistics.

(7) Motor Vehicles.—(a) Annual Report on Motor Vehicle Registrations; *(b)* Highways—Annual Report on Highway Mileage Open for Traffic, Construction and Expenditures on Construction and Maintenance.

FINANCE—

(1) Municipal Statistics.

(a) Annual Municipal Statistics of Urban Municipalities of 10,000 Population and Over. *(b)* Municipal Statistics of Urban Municipalities of 1,000 to 5,000 Population, 1922. *(c)* Annual Bulletins on Assessed Valuations by Provinces, Municipal Bonded Indebtedness, etc.

(2) Dominion. (a) Statistics of the Civil Service of Canada—Annual Report; *(b)* Statement of Civil Service Personnel and Salaries in the Months of January, 1912-1924.

(3) Provincial Finance.—Annual Report.

JUSTICE—

(1) *Criminal Statistics.*—Annual Report (covering convictions, sentences, prison statistics, police statistics, pardons, commutations and executions). Preliminary Report on Criminal Statistics.

(2) *Juvenile Delinquency.*—Annual Bulletin.

EDUCATION—

(1) Report of Dominion-Provincial Conference on Education Statistics, held October, 1920.

(2) Historical Statistical Survey of Education in Canada (1921). (Out of print.)

(3) Illiteracy and School Attendance in Canada—A study of the Census of 1921 with Supplementary Data.

(4) Annual Survey of Education in Canada. Published yearly since 1921, covering the following:—

- *(a)* Publicly-controlled schools of general education, teachers, and teachers in training.
- *(b)* Vocational and technical schools.
- *(c)* Universities and colleges.
- *(d)* Private schools of general education, and private business or commercial schools.
- *(e)* Schools for native Indians.
- *(f)* Organizations and societies of provincial or Dominion scope directly connected with the above-listed institutions.
- *(g)* Library statistics (biennially).

[The section of the Annual Survey of Education on Universities and Colleges and some of the other sections may be obtained individually and in advance of the complete publication. In addition, reports on special subjects in the field of education are issued from time to time.]

GENERAL—

(1) *National Wealth and Income.*—Estimates of the National Wealth of Canada, by Provinces, Industries, etc.—Summary of Income Tax Receipts.

(2) *Employment.*—Monthly and Annual Reports on Employment, with Index Numbers of Employment by Localities and Industries.

(3) *Commercial Failures.*—Monthly and Annual Reports.

(4) *Bank Debits.*—Monthly and Annual Reports of Bank Debits to Individual Accounts at the Clearing-House Centres of Canada.

(5) *Business Statistics.*—The Monthly Review of Business Statistics (a statistical summary, with charts and text, of current economic conditions in Canada).

(6) *Divorce.*—Annual Report.

(7) *The Canada Year Book.*—The official statistical annual of the Physiography, Resources, History, Institutions and Social and Economic Conditions of the Dominion, with a Statistical Summary of the Progress of Canada, maps, diagrams, etc.

Contents: I. Physical Characteristics of Canada (Geographical Features; Geological Formation; Seismology; Flora; Faunas; Natural Resources; Climate and Meteorology). II. History and Chronology. III. Constitution and Government (Constitution and General Government of Canada; Provincial and Local Government in Canada; Parliamentary Representation in Canada). IV. Population (Growth and Distribution). V. Vital Statistics. VI. Immigration. VII. Survey of Production. VIII. Agriculture. IX. Forestry. X. Fur Trade. XI. Fisheries. XII. Mines and Minerals. XIII. Water Powers. XIV. Manufactures. XV. Construction. XVI. External Trade. XVII. Internal Trade. XVIII. Transportation and Communications (Government Control over Transportation and Communications; Steam Railways; Electric Railways; Express Companies; Roads and Highways; Motor Vehicles; Air Navigation; Canals; Shipping and Navigation; Telegraphs; Telephones; Post Office). XIX. Labour and Wages. XX. Prices. XXI. Public Finance (Dominion Public Finance; Provincial Public Finance; Municipal Public Finance; National Wealth and Income). XXII. Currency and Banking; Loan and Trust Companies. XXIII. Insurance (and Government Annuities). XXIV. Commercial

GENERAL—concluded.

(7) *The Canada Year Book*—concluded.

Contents—concluded.

Failures. XXV. Education. XXVI. Public Health and Benevolence. XXVII. Miscellaneous Administration (Public Lands; National Defence; Public Works, etc.). XXVIII. Sources of Official Statistical and Other Information Relative to Canada. XXIX. The Annual Register (Dominion Legislation; Principal Events of the Year; Extracts from *The Canada Gazette*, re Official Appointments, Commissions, etc.). Appendix.

(Issues of the Canada Year Book for 1921, 1924, 1926 and 1930 are available.)

(8) *Canada.*—An official handbook of present conditions and recent progress, published annually.

Section 2.—Acts Administered by Dominion Departments.

List of the Principal Acts of Parliament administered by Departments of the Government of the Dominion of Canada, as compiled from information supplied by the respective Departments.

(Numbers within parentheses, unless otherwise indicated, denote chapters of the Revised Statutes of Canada, 1927—R.S.C., 1927.)

Agriculture.—Experimental Farm Stations (61); Fruit (80); Dairy Industry (45); Cold Storage (25); Seeds (185); Feeding Stuffs (67); Live Stock Pedigree (121); Live Stock and Live Stock Products (120); Animal Contagious Diseases (6); Meat and Canned Foods (77); Destructive Insect and Pest (47); Fertilizers (69); Root Vegetables (181); Section 235, Criminal Code (Race Track Betting) (36); Inspection and Sale (100).

Auditor-General.—Consolidated Revenue and Audit (178).

Civil Service Commission.—Civil Service (22).

External Affairs.—The functions and duties of this Department are defined by the Department of External Affairs Act (65) and by the International Boundary Waters Treaty Act, 1911 (1-2 Geo. V, c. 28), as amended by the Statute of April 3, 1914 (4 Geo. V, c. 5).

Finance.—Appropriation; Bank (12); Bills of Exchange (16); Board of Audit (10); Canadian Farm Loan (66); Civil Service Superannuation (24); Consolidated Revenue and Audit (178); Contingencies (31); Currency (40); Dept. of Finance and Treasury Board (71); Dominion Notes (41); Federal District Commission (Stats. 1926-27, c. 55); Finance (70); Interest (102); Ottawa Mint (134); Penny Bank (13); Provincial Subsidies (192); Quebec Savings Banks (14); Special War Revenue (179) (in part).

Fisheries.—Fisheries (73); Fish Inspection (72); Meat and Canned Foods (77) (so far as it relates to fish or shellfish); Deep Sea Fisheries (74); Northern Pacific Halibut Fishery Protection (75); Pelagic Sealing (153); Customs and Fisheries Protection (43) (in part); Navigable Waters Protection (140) (in part); The Biological Board Act (18) is also administered by the Minister of Fisheries.

National Health.—Department of Pensions and National Health (Part II) (39); Quarantine (168); Public Works Health (91); Leprosy (119); Canada Shipping (Sick and Distressed Mariners) (186); Proprietary or Patent Medicine (151); Opium and Narcotic Drug (144); Food and Drugs (including Maple Act and Honey Act) (76).

Immigration.—The Immigration Act and Regulations, 1910 (96); the Chinese Immigration Act and Regulations, 1923 (95).

Indian Affairs.—Indian (98).

Insurance.—Insurance (101); Loan Companies (28); Trust Companies (29).

Interior.—Department of the Interior (103); Dominion Lands (113); Public Lands Grants (114); Dominion Lands Survey (117); Forest Reserves and Parks (78); Irrigation (104); Railway Belt (116); Railway Belt Water (211); Yukon (215); Yukon Placer Mining (216); Yukon Quartz Mining (217); Dominion Water Power (210); Land Titles (118); Northwest Game (141); Northwest Territories (142); Ordnance and Admiralty Lands (115); Reclamation (175); Seed Grain (87); Seed Grain Sureties (88); Migratory Birds Convention (130); Manitoba Supplementary Provisions (124); Saskatchewan and Alberta Roads (180).

Justice.—Department of Justice (106); Solicitor-General's (107); Northwest Territories (142); Yukon (215); Royal Canadian Mounted Police (160); Judges (105); Supreme Court (35); Exchequer Court (34); Admiralty (33); Petition of Right (158); Criminal Code (36); Penitentiary (154); Prisons and Reformatories (163); Identification of Criminals (38); Ticket of Leave (197); Fugitive Offenders (81); Extradition (37); Juvenile Delinquents (108); Bankruptcy (11).

King's Printer and Controller of Stationery.—Public Printing and Stationery (162); The Publication of Statutes (2).

Labour.—Labour Department (111); Conciliation and Labour (110); Industrial Disputes Investigation (112); Fair Wages Resolution of the House of Commons, 1900; Employment Offices Co-ordination (57); Technical Education (193), as amended 1929, c. 8; Government Annuities (7); Combines Investigation (26); Old Age Pensions (156); White Phosphorus Matches (128); Fair Wages and Eight Hour Day (20-21 Geo. V, c. 20); Unemployment Relief, 1930 (21 Geo. V, c. 1).

Marine.—Government Harbours, Piers and Breakwaters (89); Shipping of Live Stock (122); Marine and Fisheries Department (125); Maritime Conventions (126); Navigable Waters' Protection (140); Quebec Harbour and River Police (169); Canada Shipping (186); Radiotelegraph (195); Government Vessels Discipline (203); U.S. Wreckers' (214); Belleville Harbour Commission (1889, c. 35); Halifax Harbour Commission (1927 c. 58); Hamilton Harbour Commission (1912, c. 98); Montreal Harbour Commission (1894, c. 48; 1909, c. 24; 1912, c. 35; 1913, c. 32; 1914, c. 42); North Fraser Harbour Commission (1913, c. 162); New Westminster Harbour Commission (1913, c. 158); Quebec Harbour Commission (1899, c. 34) (1905, c. 33); Saint John, N.B., Harbour Commission (1927, c. 67); Three Rivers, Que., Harbour Commission (1923, c. 71); Trenton, Ont., Harbour Commission (1922, c. 50); Toronto Harbour Commission (1911, c. 26); Vancouver Harbour Commission (1913, c. 54); Winnipeg and St. Boniface Harbour Commission (1912, c. 55); Chicoutimi Harbour Commission (1926, c. 6).

Mines.—Geology and Mines (83); Explosives (62); The Domestic Fuel (17 Geo. V, c. 52).

National Defence.—Department of National Defence Act (136); Naval Service Act (139); Naval Discipline Act; Militia Act (132); Militia Pension Act (133); Royal Military College Act (18-19 Geo. V, c. 7); Sec. 85 and 86 Criminal Code; Army Act; Regimental Debts Act; Aeronautics Act (3); Air Force Act.

National Revenue.—Customs Tariff (44); Customs (42); Canada Shipping (in part) (186); Animal Contagious Diseases (in part) (6); Destructive Insect and Pest (in part) (47); Export (63); Copyright (in part) (32); Petroleum and Naphtha (159); Excise (60); Special War Revenue 1915 (179); Income War Tax, 1917 (197); Agricultural Pests Control Act (in part) (5); Customs and Fisheries Protection (in part) (43); Explosives (in part) (62).

Post Office.—Post Office (161); Special War Revenue (in part) (179).

Public Works.—Public Works (166); Government Harbours and Piers, s. 5 (89); Navigable Waters Protection (140); Telegraphs (194); Dry Dock Subsidies (191); an Act to authorize the payment of a subsidy to the Collingwood Shipbuilding Co. Ltd. (2 Geo. V, 1912, c. 17); Government Works Toll Act (167); an Act to incorporate the National Gallery of Canada (3-4 Geo. V, 1913, c. 33); an Act to authorize the payment of a subsidy to the Western Dry Dock and Shipbuilding Co., Ltd., (3-4 Geo. V, 1913, c. 57); Act to confirm an agreement between His Majesty the King and the Corporation of the City of Ottawa (10-11 Geo. V, c. 15); Ferries Act (68), transferred by Order in Council, June 3, 1918, for administration by Public Works Department. Act Regulating Vehicular Traffic on Dominion Property (20-21 Geo. V, c. 47).

Railways and Canals.—Department of Railways and Canals (171); Government Railways (173); Intercolonial and P.E.I. Railway Employees' Provident Fund (6-7 Edw. VII, c. 22 and amending Acts); Acts to amend the National Transcontinental Railway Act (4-5 Geo. V, c. 43 and 5 Geo. V, c. 18); Canadian National Railways (172); Canadian National Railway Branch Lines (14-15 Geo. V, cc. 14-32; 15-16 Geo. V, cc. 5, 6 and 7; 17 Geo. V, cc. 12-26; 18-19 Geo. V, cc. 18-36); Government Employees Compensation (30); Canadian National Refunding, 1927 (17 Geo. V, c. 27); The Canadian National Refunding Act, 1929 (19-20 Geo. V, c. 11); Canadian National (Central Vermont) Financing, 1930 (20-21 Geo. V, c. 7); Canadian National Refunding, 1930 (20-21 Geo. V, c. 8); Grand Trunk Pacific Securities, 1927 (17 Geo. V, c. 7); Canadian National Steamships, 1927 (17 Geo. V, c. 29); Canadian National Railways Pension Act (19-20 Geo. V, c. 4); Canadian National Montreal Terminals Act, 1929 (19-20 Geo. V, c. 12); Maritime Freight Rates Act (79).

The "Railway Act" (Companies) confers certain powers upon the Minister of the Department. In the case of subsidized railways, the authorizing Acts are carried out under the Department, which also has certain jurisdiction where Government guarantee has been given.

Secretary of State.—Companies (27); Naturalization (138); Patents (150); Copyright (32); Trade Marks (201); Canada Temperance (196); Boards of Trade (19); Ticket of Leave (197); Trade Unions (202); Treaties of Peace.

Trade and Commerce.—Canada Grain (86) (20-21 Geo. V, c. 5); Copper Bars and Rods Bounty (13-14 Geo. V, c. 40); Electricity and Fluid Exportation (54); Electricity Inspection (55); Electric Units (56); Gas Inspection (82); Hemp Bounty (13-14 Geo. V, c. 50), Inland Water Freight Rates (208); Precious Metals Marking (84) (18-19 Geo. V, c. 40) (19-20 Geo. V, c. 53); Statistics (190); Weights and Measures Inspection (212); Act to place Canadian Coal used in the Manufacture of Iron or Steel on a Basis of Equality with Imported Coal (20-21 Geo. V, c. 6).

Section 3.—Publications of Dominion Departments.

List of Principal Publications of the Departments of the Government of the Dominion of Canada as Compiled from Information Supplied by the respective Departments.

Agriculture.—Annual Reports of the Minister, of the Experimental Farms and Stations, of the Veterinary Director-General and of the Entomological Branch. Bulletins, pamphlets and circulars of the Experimental Farms Branch on a great variety of agricultural subjects, including publications of the following Divisions:—Field Husbandry; Animal Husbandry; Horticulture; Cereal; Chemistry; Forage Plants; Botanical; Poultry; Tobacco; Economic Fibre; Bacteriology; Bees, and Illustration Stations. *Seasonable Hints* is issued three times a year. Bulletins of the Dairy and Cold Storage Branch relating to the dairying and cold storage industries in Canada, the making of butter and cheese, dairying experiments, co-operation, etc. Reports, bulletins, pamphlets, etc., of the Live Stock Branch on cattle, sheep, swine, poultry, marketing of eggs, wool, etc. Bulletins of the Health of Animals Branch, with regulations as to contagious abortion; rabies; sheep scab; actinomycosis; anthrax; glanders; hog cholera; maladie du coït; tuberculosis; foot-and-mouth disease; quarantine; and meat inspection. Bulletins and reports of the Seed Branch as to seed-testing, the production and use of seed grains, the Seed Control Act, the Feeding Stuffs Act and the Fertilizers Act. Bulletins and circulars of the Entomological Branch and instructions to importers of nursery stock. Reports of the Canadian Seed Growers' Association. Fodder and Pasture Plants, by George H. Clark, B.S.A., and M. Oscar Malte, Ph.D., 143 pages, 27 plates, price 50 cents. Bulletin on the Maple Sugar Industry.

Dominion Experimental Farms.—(1) Report of the Director (contains summary of reports of Divisions, Farms and Stations); (2) Animal Husbandry Division; (3) Bee Division; (4) Botanical Division; (5) Chemistry Division; (6) Field Husbandry Division: (7) Illustration Stations Division; (8) Poultry Division; (9) Tobacco Division; (10) Horticultural Division; (11) Cereal Division; (12) Forage Crops Division; (13) Economic Fibre Division and (14) Division of Bacteriology. *Experimental Farms and Stations Reports.*—Agassiz, B.C.; Indian Head, Sask.; Nappan, N.S.; Charlottetown, P.E.I.; Invermere, B.C.; Sidney, B.C.; Brandon, Man.; Morden, Man.; Cap Rouge, Que.; Scott, Sask.; Swift Current, Sask.; Kapuskasing, Ont.; La Ferme, Que.; Kentville, N.S.; Lennoxville, Que.; Ste. Anne de la Pocatière, Que.; Rosthern, Sask.; Lethbridge, Alta.; Lacombe, Alta.; Summerland, B.C.; Farnham, Que.; Fredericton, N.B. *Experimental Sub-Stations.*—Beaverlodge, Alta.; Fort Vermilion, Alta.; Fort Resolution, N.W.T.; Salmon Arm, B.C.; Fort Providence, N.W.T.; Betsiamites, Que.; and Fort Smith, N.W.T.

A pamphlet entitled "List of Publications" contains a list of the publications of the Department, numbering more than 400. These publications include, in addition to the reports, bulletins and pamphlets on field crops, live stock, dairying, orchard and garden insect and plant diseases, poultry and miscellaneous topics. With few exceptions, the publications of the Department are free on application to its Publications Branch.

Auditor-General.—Annual Report.

Board of Railway Commissioners for Canada.—Annual Report. Pamphlet containing Judgments, Orders, Regulations and Rulings, issued fortnightly.

Civil Service Commission.—Annual Report, including lists of permanent appointments, promotions and transfers; Classification of the Civil Service of Canada, revised up to Sept. 1, 1927; Regulations of the Civil Service Commission; How Appointments are made in the Public Service; Examinations for Clerks, Stenographers and Typists; Examinations for Customs Service; Examinations for Postal Service; Examinations for Junior Trade Commissioners.

Dominion Fuel Board.—The Dominion Fuel Board was created in 1922 primarily to instigate a thorough study of the underlying causes of recurring fuel shortages in Canada and of the methods by which they may be counteracted. It is composed of officers of the Departments of Mines and of the Interior, and the co-operation of both Departments is given to the Board in its investigations. The following reports and publications have been issued:—Interim Report of the Dominion Fuel Board, 1923; Central and District Heating, Possibilities of Application in Canada, by F. A. Combe, 1923; Coke as a Household Fuel in Central Canada, by J. L. Landt, 1925; Smoky River Coal Field, by James McEvoy, 1925; Why You Should Insulate Your Home, by G. D. Mallory, 1927; Dominion Fuel Board Second Progress Report, 1928; Humidity in House Heating, by E. S. Martindale, 1929; Cards bearing instructions on "How to Burn Coke".

Publications of Mines Branch, Department of Mines, in co-operation with Dominion Fuel Board.—Coking Experiments on Coals from the Maritime Provinces, by B. F. Haanel and R. E. Gilmore, 1926; Tests of Various Fuels to Determine their Relative Heating Efficiency, by E. S. Malloch and C. E. Baltzer, 1927; Instructions for Burning Coal, Coke and Peat, 1927; Industrial Fuel and Power Statistics for Ontario, Calendar Year 1925, by E. S. Malloch and C. E. Baltzer, 1928.

External Affairs.—Annual Report; Annual Treaty Series.

Finance.—Annual Report on the Public Accounts of the Dominion of Canada. Monthly Statements of the Chartered Banks of Canada. Estimates.

Fisheries.—(Publications marked * are available in either English or French).

* Annual Report including Fish Culture Report.
* Annual Statistical Report.
Fish Culture Report (separately).
A Popular Account of Some Canadian Fishes—A. Halkett.
* Canada's Fisheries.
Map of the Atlantic Coast Provinces showing fishing grounds.
* The Dried Codfish Trade—J. J. Cowie.
* The Red Discolouration of Cured Codfish.
Statistics of the Haddock Fishery in North American Waters—A. W. H. Needler.
Statistics of the Cod Fishery—O. E. Sette.
Investigation into the Natural History of the Herring—Dr. Johan Hjort.
Investigations in the Gulf of St. Lawrence and Atlantic Waters of Canada —Dr. Johan Hjort.
Fisheries Investigation into Hudson and James Bays in 1914—Melville, Lower and Comeau.
* Reports on the Lobster Industry—Dr. A. P. Knight.
Discolouration, Smut or Blackening of Canned Lobsters—Harrison and Hood.
Historical Account of the Lobster Canning Industry—R. H. Williams.
* Fish Canning in Canada.
Reports by Professor E. E. Prince on
    (1) Hatching and Planting of Trout;
    (2) Planting of Predaceous Fish;
    (3) Notes on the Habits and Life History of the Salmon.
* Fish and Chip Shops.
* Fisheries News Bulletin (monthly).
Quarterly Bulletin of Sea Fisheries Statistics.
* The Salmon Fishery of British Columbia.
Monthly Report on Fish Market Conditions in Several Countries.
Preliminary Report on Fisheries Investigations in Hudson Bay, 1930.

Various reports and bulletins of the Biological Board of Canada are also available for distribution by the Department of Fisheries.

Geographic Board of Canada.—18th Report, containing all decisions to Mar. 31, 1924; 19th Report, containing all decisions from April 1, 1924, to July 31, 1927, with supplements numbers 1 to 12. "Place-Names of Alberta", 1928. 25c.; "Place-Names of Manitoba", 1931, 25c.; "Meaning of Canadian City Names", 1922; "Place-Names on Magdalen Islands, Quebec", 1922; "Place-Names of Prince Edward Island with Meanings", 1925, 25c.; "Place-Names in Thousand Islands, St. Lawrence River", 1910; "Place-Names on Anticosti Island, Quebec", 1922; Catalogue and Graphical Index of Maps in the Geographic Board Library, two volumes, 1922, Supplement 1925.

Immigration and Colonization.—Atlas of Canada—United Kingdom, United States, and French editions. Eastern Canada—United Kingdom, United States, and French editions. Canada West—United Kingdom, United States, and French editions. Farm Opportunities in Canada—United Kingdom, Irish Free State, Danish, French and United States editions. A Manual of Citizenship—English, French, and Dutch editions. Houseworker in Canada, Vest Pocket Booklet—British, United States and European editions. Map Folder of the World—United States edition. Land Settlement, Canada; Where to go for Advice. British Farm Settlement in New Brunswick. Boy Settlement in Canada. Winning Through.

Indian Affairs.—Annual Report. Indian Act, R.S.C., 1927. Schedule of Indian Reserves, 1928. Indian Treaties and Surrenders, Vols. I, II, III.

Insurance.—Quarterly Statement showing List of Licensed Companies. Annual Abstract of Statements of Insurance Companies in Canada (subject to correction). Annual Reports of the Insurance Department, Vol. I (Fire and Miscellaneous), Vol. II (Life Companies and Fraternal Benefit Societies). Annual List of Securities held by Insurance, Trust and Loan Companies in Canada, with Department's Valuation thereof. Abstract of Statements of Loan and Trust Companies in Canada. Annual Report of Loan and Trust Companies incorporated by the Dominion.

Interior.—Owing to the re-organization of the Department of the Interior, now in progress, it has not been possible to secure, for this edition of the Year Book, an up-to-date list of available publications. The list published in the 1930 Year Book is now in many respects out of date, but it is hoped to bring this section up-to-date next year. In the meantime, the interested reader is referred to the Secretary of the Department for information regarding current publications.

International Boundary Commission.—*Reports.*—Joint Report upon the Survey and Demarcation of the Boundary between the United States and Canada from the source of the St. Croix River to the St. Lawrence River, 1925, with accompanying Triangulation and Precise Traverse Sketches, $5; Joint Report upon the Survey and Demarcation of the Boundary between the United States and Canada from the Western Terminus of the land Boundary along the 49th Parallel, on the west side of Point Roberts, through Georgia, Haro and Juan de Fuca Straits, to the Pacific Ocean, 1921, with accompanying Chart, $5; Joint Report upon the Survey and Demarcation of the Boundary between the United States and Canada along the 141st Meridian from the Arctic Ocean to Mount St. Elias, 1918, $5; Report of the International Waterways Commission upon the International Boundary between the Dominion of Canada and the United States, through the River St. Lawrence and the Great Lakes, 1915, with full set of 30 maps, $7.50. *Maps.*—From the source of the St. Croix River to the Atlantic Ocean, 18 sheets except sheet No. 13, various scales, sizes 26 by 38 inches, 50c. each; from the St. Lawrence River to the source of the St. Croix River, 61 sheets and index sheet, various scales, 26 by 38 inches, 50c. each; from the St. Lawrence River at St. Regis to the head of Pigeon Bay in Lake Superior, 29 sheets and index sheet, International Waterways Commission, various scales 29½ by 36 inches, 25c. each; Northwesternmost Point of Lake of the Woods to the head of Pigeon Bay in Lake Superior, 36 sheets and index sheet, various scales, 26 by 38 inches, 50c. each; 49th Parallel, Northwesternmost Point of the Lake of the Woods to Point Roberts, 59 sheets, index and profile sheets, scale 1:62,500, size 15 by 30 inches, sheets 1 to 19, 50c. each, sheets 20 to 59, 25c. each; west side of Point Roberts through Georgia, Haro and Juan de Fuca Straits to the Pacific Ocean, 1 sheet, scale 1:200,000, 28 by 41 inches, 50c.; Cape Muzon to Mount St. Elias, 13 sheets 25 by 29 inches, scale 1:250,000, sheets 1 and 2 not yet published, 50c. each; Preliminary Map—Head of Portland Canal to Stikine River, scale 1:250,000, 24 by 33 inches, 25c. each; 141st Meridian from the Arctic Ocean to Mount St. Elias, 30 sheets, scale 1:62,500 with profile sheet, index sheet and special Arctic Coast Sheet, size 18 by 27½ inches, 25c. each; Mount St. Elias to White River sheet, scale 1:250,000, size 19 by 28 inches, 25c.

These reports or maps may be obtained on application to the International Boundary Commission, Department of the Interior, Ottawa. Cheques should be made payable to the Receiver General of Canada.

Justice.—Annual Report of the Superintendent of Penitentiaries.

King's Printer and Controller of Stationery.—The *Canada Gazette,* published weekly, with occasional supplements and extras; subscription in Canada and United States $5 per annum payable in advance, single copies 15c. each, other countries $6.50 per annum and 20c. per single copy. Judgments of the Board of Railway Commissioners, semi-monthly, $3 per annum, single copies, 20c. Canada Law Reports, published monthly, yearly subscriptions, $6. Revised Statutes of Canada, 1927 (5 vols.), $10. Annual Statutes, 1928, $5, 1929, $5. Acts, Public and Private, with amendments to date, 10c. to $1 per copy. Canadian Postal Guide, $1 paper cover, $1.50 cloth cover; including supplements, additional 25c. Parliamentary Debates, "Hansard", issued daily during session, French and English, $3 per session each for House of Commons and Senate Debates; single copies, 5c. Prices of bluebooks are in nearly every case printed upon the front cover and are based practically on cost. They may be ordered direct from the King's Printer, Ottawa. A catalogue of official publications of the Parliament and Government of Canada is issued regularly and a copy may be obtained free of charge from the King's Printer, Ottawa.

Labour.—*Monthly.*—The *Labour Gazette* (published in English and French) at a subscription price of 20c. per annum. *Annually.*—Report of the Department of Labour (including: Reports of Proceedings under the Industrial Disputes Investigation Act, Conciliation and Labour Act, Employment Offices Co-ordination Act, Technical Education Act, Government Annuities Act, Combines Investigation Act, and Old Age Pensions Act. Labour Legislation in Canada as existing on Dec. 31, 1928 (a supplementary report thereto on Labour Legislation is published annually in February or March). Labour Organization in Canada. Organization in Industry, Commerce and the Professions in Canada. Co-operative Associations in Canada. Wages and Hours of Labour in Canada. Prices in Canada and other Countries. Strikes and Lockouts in Canada and other Countries. *General Reports.*—Report of Royal Commission on Industrial Relations, bound with Report of Proceedings and Discussions of National Industrial Conference, 1919. Hours of Labour in Canada and other Countries, 1923. Report of Commission appointed under Order in Council (P.C. 1929), Sept. 22, 1923, to inquire into The Industrial Unrest among the Steel Workers at Sydney, N.S. Report of Provincial Royal Commission on Coal Mining Industry in Nova Scotia, January, 1926. Government Intervention in Labour Disputes in Canada. Judicial Proceedings respecting Constitutional Validity of the Industrial Disputes Investigation Act, 1907, and Amendments of 1910, 1918, 1920 and 1925. Legal Status of Women in Canada. The Employment of Children and Young Persons in Canada. *Reports of Investigations under the Combines Investigation Act.*—(1) Investigation into Alleged Combine in the Distribution of Fruits and Vegetables in Western Canada, 1925; (2) Investigation into Alleged Combine amongst Coal Dealers at Winnipeg and other places in Western Canada, 1925; (3) Investigation into Alleged Combine limiting Competition in the Marketing of New Brunswick Potatoes, 1925; (4) Investigation into Alleged Combine in the Manufacture and Sale of Bread in the City of Montreal, 1926 (out of print); (5) Investigation into Alleged Combine in the Distribution of Fruits and Vegetables produced in Ontario, 1926; (6) Investigation by Registrar into the Proprietary Articles Trade Association, 1926; (7) Investigation by Commissioner into the Proprietary Articles Trade Association, 1927; (8) Reports of the Commissioner on the Amalgamated Builders' Council, 1929; (9) Report of Commissioner on the Electrical Estimators Association, 1930; (10) Report of Registrar into alleged combine in the Bread-Baking Industry in Canada, 1931. *Bulletins in Industrial Relations Series.*—(1) Joint Councils in Industry; (2) Report of a Conference on Industrial Relations, 1921; (3) Joint Conference of the Building and Construction Industries in Canada; (4) Employees' Magazines in Canada; (5) Canada and the International Labour Conference; (7) Canadian Railway Board of Adjustment, No. 1, Second Report; (8) National Conference Regarding Winter Employment in Canada; (9) Canadian Railway Board of Adjustment, No. 1, Third Report; (10) Canadian Railway Board of Adjustment, No. 1, Fourth Report.

Marine.—Annual Report. List of Canadian Shipping. Reports of Expeditions to Hudson Bay, Northern Waters and Arctic Archipelago. Canadian Port Directory. List of Lights, etc., in Canada:—(a) Pacific Coast; (b) Atlantic Coast; (c) Inland Waters.

Charts and Publications of the Canadian Hydrographic Service.—Catalogue of Marine Charts, Sailing Directions, Tidal Information and other Canadian Government publications of interest to mariners (free). *Pilots.*—(price $1.00 per copy) St. Lawrence Pilot (below Quebec), comprising sailing directions from Cap des Rosiers to Quebec, 5th edition, 1929. Supplement No. 1 to above, 1931. St. Lawrence Pilot (above Quebec), comprising sailing directions from Quebec harbour to False Ducks island and Stony point, lake Ontario, 2nd edition, 1920. Sailing Directions for the Canadian shores of lake Ontario, 1921. Supplement No. 1 to above, 1931. Sailing Directions for the Canadian shores of lake Huron and Georgian bay, 3rd edition, 1926. Sailing directions for the Canadian shores of lake Superior, 1st edition, 1922. Supplement No. 2 to the above, 1931. British Columbia Pilot, Vol. II, northern portion of the coast of British Columbia from Cape Caution to Portland Inlet and Queen Charlotte Islands, 1st edition, 1930. Navigating charts. *Reports of the International Waterways Commission.*—On the Regulation of Lake Erie, 1910. On the International Boundary Line through the St. Lawrence river, Great Lakes and Connecting Waters, 1915. *Tidal and Current Survey Reports.*—(issued free of charge)—Currents in the gulf of St. Lawrence, including the Anticosti Region, Cabot Strait and Northumberland Strait. Currents of the Southeastern Coasts of Newfoundland (under revision). Currents in Belle Isle Strait (under revision). Currents in the Entrance to the St. Lawrence Estuary. Tables of Hourly Directions and Velocity of Currents and Time of Slack Water in the Bay of Fundy. Tide Levels and Datum Planes on the Pacific Coast of Canada. Tide Levels and Datum Planes in Eastern Canada; giving the levels in 86 harbours and other localities. Tides at the head of the Bay of Fundy, with diagrams. Tidal Investigations and Results; Arctic Tides, with map. Tides and Tidal Streams; a general description of the various types of tide and the behaviour of Currents, with plates. Temperatures and Densities of the Waters of Eastern Canada, with maps. *Tide Tables.*—(issued free of charge) Tide Tables for the Pacific Coast. Tide Tables for the Eastern Coasts of Canada. Abridged edition for Quebec, Father Point and the St. Lawrence River. Abridged edition for Saint John, N.B., and the Bay of Fundy. Abridged edition for Halifax, Sydney and Atlantic coast of N.S. Abridged edition for Charlottetown and Northumberland Strait. Abridged edition for Vancouver and the Strait of Georgia. Abridged edition for Prince Rupert and Northern B.C.

Charts of the Canadian Hydrographic Service.—(Price 50 cents each.) Numerous charts are published of the Atlantic coast and its harbours, Hudson bay and harbours and anchorages, the St. Lawrence river, the Ottawa river, lake Ontario and harbours, lake Erie and harbours, lake Huron and Georgian bay and harbours, lake Superior and harbours, lake of the Woods, lake Winnipeg, Great Slave lake, Pacific coast and harbours. There is also a number of International Waterways Commission charts, not intended for navigation.

Radiotelegraph Branch.—Maps showing the Radiotelegraph and Radiotelephone coast stations in the Dominion of Canada. Postmaster-General's Handbook for Radiotelegraph Operators (Instructions *re* handling of traffic, etc.). Radiotelegraph Act and Regulations issued thereunder. Circular letter to Canadian Broadcast Listeners *re* Interference from the Regenerative Receiving Set. Official List of Radio Stations in Canada (price 25 cents).

Mines.—The scientific and investigatory work of the Department of Mines, which is chiefly concerned with the development of the Dominion's mineral industries, is carried on by the Department's four principal branches—the Geological Survey, the Mines Branch, the National Museum of Canada and the Explosives Division.

The Geological Survey carries on areal and economic investigations and research work in geology and mineralogy; the Mines Branch carries on field laboratory and industrial investigations covering the various phases of the mining and metallurgical industries from the primary occurrence of the ores to the utilization of the finished products; the National Museum of Canada carries on scientific investigations in all branches of natural history; and the Explosives Division, under the provisions of the Explosives Act (R.S.C., c. 62), has supervision of the manufacture, testing, storage, and importation of explosives and issues the licences and permits authorized by the Act.

The Department of Mines publishes an annual administrative report covering the activities of the whole Department, and occasional pamphlets illustrating the services rendered the mining and metallurgical industries. Each of the branches publishes annual reports in addition to memoirs and bulletins on special investigations and districts.

The Geological Survey Branch.—From 1842 to 1904, published annual volumes. From 1904 to 1910, upwards of 80 reports were issued, all separately. Since then the publications have consisted of memoirs and bulletins appearing at irregular intervals, an annual summary report and miscellaneous publications, including geological and topographical maps, geological guide books and handbooks. The subjects dealt with include areal and economic geology of particular districts, mineralogy, palæontology and related topics. In 1926 the first volume of a new Economic Geology Series was published, and further volumes of this series have since been issued. A list of the reports published by this Branch may be obtained on application to the Director, Geological Survey, Ottawa.

The National Museum of Canada has published a series of *Museum Bulletins* in many branches of natural history. A list of these may be obtained on application to the Director, National Museum of Canada, Ottawa.

The Mines Branch, since its inception in 1908, has published annual summary reports covering the investigations of the Divisions of Mineral Resources, Ore Dressing and Metallurgy, Fuels and Fuel Testing, Ceramic and Road Materials and Chemistry, also the operations of the Dominion Assay Office. More detailed and comprehensive reports have also been published by this Branch, dealing with the technology of most of the economic minerals of Canada. A list of the Mines Branch reports may be had on application to the Director, Mines Branch, Ottawa.

The Explosives Division has published annual reports since 1919 and a number of pamphlets on the proper care and handling of explosives. Copies may be obtained on application to the Chief Inspector of Explosives, Department of Mines, Ottawa.

The publications of the Department of Mines cover all phases of mining from preliminary explorations and surveys of unmapped territory through the mining, milling, smelting and refining of the ores to the marketing and utilization of the finished product. Most of these reports and maps may be obtained free of charge by those interested on application to the Deputy Minister of Mines, Ottawa, or to the Directors of the Branches concerned, whose addresses are given above. Many of these reports may be had in French translations.

National Defence.—Annual Report, Militia and Air Services; Annual Report, Naval Service; Report on Civil Aviation; List of Officers, Defence Forces of Canada, Naval, Military and Air Services; Canadian Navy List; General Orders, Militia and Air Services; Militia Orders; Air Regulations.

National Research Council.—*Annual Reports.*—Reports of the National Research Council for the years 1917-18; 1918-19; 1919-20; 1920-21; 1921-22; 1922-23; 1923-24; 1924-25 (English and French); 1925-26; 1926-27; 1927-28; 1928-29; 1929-30. *General Reports.*—(For Nos. 1 to 21 see p. 1042 of the 1927-28 Year Book. Nos. 6, 10 and 12 are now out of print.) No. 22, An Experimental Study of Sieving, by J. B. Porter, Ph.D., D.Sc.; No. 23, The Storage of Apples in Air-cooled Warehouses in Nova Scotia, by S. G. Lipsett,, Ph.D., covering investigation by Associate Committee on Fruit Storage; No. 24, The Drying of Wheat, covering an investigation by the Associate Committee on Grain Research. *Bulletins.*—(For titles of Nos. 1 to 12, see p. 1042 of the 1927-28 Year Book. Nos. 3, 4, 6, 7 and 12 are now out of print.) No. 13, Interim Report on Protein Content as a Factor in Grading Wheat, prepared by the Associate Committee on Grain Research. No. 14, Report on Inquiry in Europe Regarding the Feasibility of Using Protein Content as a Factor in Grading and Marketing Canadian Wheat, by R. Newton, Ph.D. No. 15, Review of Literature dealing with Health Hazards in Spray Painting Submitted by the Associate Committee on Spray Painting.

National Revenue.—Annual Report, containing statements relative to Imports, Exports, Excise and Income. Annual Report of Shipping. National Revenue Review (monthly).

Pensions and Health.—(1) Sanitation. "Sewage Treatment for Isolated Houses and Small Institutions where Municipal Sewage System is not available". The Little Blue Books:—(2) The Canadian Mother's Book; (3) How to Take Care of the Baby; (4) How to Take Care of the Mother; (5) How to Take Care of the Children; (6) How to Take Care of the Father and the Family; (7) Beginning a Home in Canada; (8) How to Build the Canadian House; (9) How to Make the Canadian Home; (10) How to Make Outpost Homes in Canada; (11) How to Avoid Accidents and Give First Aid; (12) Canadians Need Milk; (13) How we Cook in Canada; (14) How to Manage Housework in Canada; (15) How to Take Care of Household Waste; (16) Household Cost Accounting in Canada; (17) Sanitation, "Water Supplies" (unabridged edition); (18) Sanitation, "Water Supplies" (homesteader's edition); (20) General Circular of Information concerning Venereal Diseases; (21) Venereal Diseases—Wasserman Test; (22) Venereal Diseases—Microscopical Examination; (23) Venereal Diseases—Diagnosis and Treatment; (24) Information for Men—Syphilis and Gonorrhœa; (25) Information for Young Women about Sex Hygiene; (26) Information for Parents—Teaching of Sexual Hygiene to Children; (27) Prevention of Blindness in Babies; (28) Periodic Medical Examinations; (29a) Goitre—Facts for the General Public; (30) How to Build Sound Teeth; (31) What you should know about Tuberculosis; (32) Smallpox and Vaccination; (33) Narcotism in Canada; (34) Planning of Small Community Hospitals; (35) Maple Products; (36) Pasteurization of Milk for Small Communities; (37) Report of Maternal Mortality Enquiry; (38) Mother—A little book for women; (39) Mother—A little book for men; (40) Child Welfare Work and Workers in Canada for Children not in their Own Homes; (43) Rickets; (51) Be prepared to prevent Infantile Paralysis.

(Note.—Publications 20, 21, 22, 23 and 28 are for the *Medical profession only*).

Post Office.—Annual Report of the Postmaster General. Official Postal Guide. Regulations as to rural mail delivery. Booklet of Postal Information.

Public Works.—Annual Report.

Railways and Canals.—Annual Report of the Department; Canals of Canada; The Trent Canal System; Canal Rules and Regulations; Port Colborne Elevator Tariff and Regulations.

Secretary of State.—Annual Report. The Arms of Canada.

Trade and Commerce.

NOTE.—Requests for those publications marked with an asterisk should be addressed to the King's Printer; the remaining publications may be obtained from the Deputy Minister, Department of Trade and Commerce.

*Annual Report of the Dept. of Trade and Commerce, 25c.; *Annual Report of the Board of Grain Commissioners for Canada, 10c.; *Annual Report of Electricity and Gas, 25c.; *Annual Report of Weights and Measures, 10c.; Annual Reports, Dominion Grain Research Laboratory, 1928-29-30; *Canada-West Indies Conference, 1925, with text of Canada-British West Indies-Bermuda-British Guiana-British Honduras Trade Agreement (1925), $1; Electrical Standards and their application to Trade and Commerce; * List of Licensed Elevators, etc., 50c.; Motion Pictures, (Catalogue of), 25c.; Pan Pacific Commercial Conference (1923), 10c.; Precious Metals Marking Act. Office Consolidation, 10c.

Publications of the Commercial Intelligence Service.—(NOTE.—Publications of the Commercial Intelligence Service are free to subscribers to the *Commercial Intelligence Journal.*) Australia (General Trade Information); Advertising in China; Advertising in the Middle East; Assistance that can be given by Canadian Trade Commissioners; **Commercial Intelligence Journal* Weekly (In English and French) containing Reports of Trade Commissioners and other commercial information. Annual subscription: In Canada, $1; single copies, 5c.; outside Canada, $3.50; single copies, 10c.; Chinese Markets for Canadian Products (1919), 25c.; Czechoslovakia as a market for Canadian Products (1927), 25c.; Denmark as a market for Canadian Products (1926), 25c.; Empire Tariff Preferences on Canadian Goods (1930), 25c.; Foreign Markets for Canadian Certified Seed Potatoes (1930), 25c.; German War and its Relation to Canadian Trade (1914), 25c.; Greece as a Market (1931), 25c.; Indian Empire as a Market for Canadian Products (1922), 25c.; Lumber Market of Japan (1926), 25c.; Jugoslavia as a Market (1930), 25c.; Markets of British Malaya (1923), 25c.; Markets of Central America, 25c.; Peru as a Market for Canadian Products (1926), 25c.; Report of Special Trade Commission to Great Britain, France and Italy, (English) (1916), 25c.; Republic of Chile: Its Economic Condition and Trading Opportunities (1923), 25c.; Russian Trade (1916), 25c.; South American Markets—Argentina, Chile, Paraguay and Uruguay (1929), 25c.; Switzerland as a Market (1929), 25c.; Sweden as a Market for Canadian Products (1927), 25c.; Trade of the African Sub-Continent (1928), 25c.; Timber Import Trade of Australia (1917), 25c.; Trading Opportunities in Scandinavia (1922), 25c.; Trading with Brazil: Points for Exporters, 5c.; Trading with Colombia and Venezuela (1928), 25c.; Trading with Panama (1930), 5c.; Trading Possibilities of the Baltic States (1929), 25c.; Trade of the New Countries of South-East Europe (1921), 35c.; Trading with Egypt (1921), 35c.; Trade with South China (1919), 25c.; Trading with Spain (1920), 25c.; West Africa and its Opportunities for Canadian Trade (1921), 25c.; The French-Canadian Homespun Industry, (French and English); Trading with Germany: Points for Exporters, 5c.; Trading with Netherlands: Points for Exporters, 5c.; Points for Canadian Exporters to: Australia, 5c.; Belgium, 5c; British Honduras, 5c.; British Isles, 5c.; British Malaya & Siam, 5c.; British West Indies, 5c.; China, 5c.; Colombia, 5c.; Cuba, 5c.; France, 5c.; Haiti, 5c.; Hongkong, 5c.; India, 5c.; Jamaica, 5c.; Japan, 5c.; Mexico, 5c.; Netherlands East Indies, 5c.; New Zealand, 5c.; South Africa, 5c.; Venezuela, 5c.; West Indies & British Guiana, 5c.; What the Canadian Exporter can do for the Trade Commissioner.

Requests for those publications marked with an asterisk should be addressed to the King's Printer; the remaining publications may be obtained from the Deputy Minister, Department of Trade and Commerce.

Dominion Bureau of Statistics.—For the publications of the Dominion Bureau of Statistics see pp. 1075 to 1083.

Section 4.—Publications of Provincial Governments.

PRINCE EDWARD ISLAND.

Journal of the Legislative Assembly. Statutes. General Index of Statutes of P.E.I., 1869-1928. Royal Gazette. Annual Reports of the Provincial Auditor on Public Accounts and of the Departments of Public Works, Education, Agriculture, Falconwood Hospital (for the Insane) and Provincial Infirmary, Vital Statistics and Public Health.

NOVA SCOTIA.

Royal Gazette. Statutes, Journal and Proceedings of the House of Assembly. Journal of Education. Manual of the Public Instruction Acts and Regulations of the Council of Public Instruction, 1921. Annual Reports on Public Accounts, Public Health—Vital Statistics, Statistics of Incorporated Towns and Municipalities, Education, Fire Marshal, Mines, Provincial Museum, Rural Telephones, Humane Institutions, Public Charities (including reports of Hospitals and Sanatorium), Penal Institutions, Child Welfare, Temperance, Printing, Legislative Library, Public Utilities Board and Workmen's Compensation Board, Provincial Secretary, Department of Agriculture (including Agent-General in London, Factory Inspector), Department of Highways, Department of Lands and Forests, and the Power Commission. Special Report of Royal Commissioner on Apple Industry.

NEW BRUNSWICK.

Royal Gazette. Statutes. Annual Reports of the Auditor-General, of the Board of Health, of the Departments of Education and Agriculture (including Horticulture). Annual Reports on Public Works, Crown Lands, the Hospital for the Insane, the Factory Report, Report of the Jordan Memorial Tuberculosis Sanatorium at River Glade, Report of Women's Institutes, Report of the Workmen's Compensation Board, Report of Public Utilities Commission, Report of N.B. Hydro-Electric Power Commission.

QUEBEC.

NOTE.—The titles of publications available in the English language are printed in English.

Attorney-General.—Annual List of Public Officers of the Province of Quebec.

Municipal Affairs.—Annual Report of the Minister of Municipal Affairs. List of Municipal Corporations (annual); List of School Municipalities, Schools and Teaching Staff (annual); Statistical Year Book; Education Statistics; Financial Statistics of School Corporations; Municipal Statistics (annual); Judicial Statistics (annual); Statistics of the Penal Establishments (annual); Statistics of the Benevolent Institutions (annual).

Provincial Secretary.—Annual Report of the Secretary and Registrar; Annual Report of the Provincial Bureau of Health; The Official Gazette (weekly); The Statutes of the Province (annual); Revised Statutes of the Province (1925); Rapport de l'Archiviste (annuel); Monuments commémoratifs de la province de Québec, P.-G. Roy; Report of the Director of Public Charities.

Treasury.—Annual Statement of Public Accounts; Annual Estimates; Annual Budget Speech; Annual Report on Insurance Companies; Annual Report on Mutual Benefit Associations; Annual Report on Trust Companies.

Bureau of Revenue.—Annual Report of the Quebec Liquor Commission; Annual Report on Motor Vehicles Registrations; Statistics of Automobile Accidents.

Lands and Forests.—Annual Report of the Minister; Surveyed Townships and explored Territories, 1889; Richesse Forestière de la province de Québec, J.-C. Langelier, 1905; La Forêt, Fernow, 1905; Table of Families of Twelve Children, Eugène Rouillard, 1904, 1906; Townships Surveyed and Territories Explored, 1908; List of Timber Licence Holders, 1911; Dictionnaire des Lacs et Rivières de la province de Québec, Eugène Rouillard, 1914; Circular No. 1, la Rouille vésiculaire du Pin blanc, G.-C. Piché; The Water Powers in the Province of Quebec (illustrated), 1917; Nomenclature of the Geographical Names in the Province of Quebec, Quebec Geographical Commission; Dictionnaire des Lacs et Rivières; Annual

Report of the Quebec Streams Commission; Notes on the Forests of Quebec, G.-C. Piché; Forêts et chutes d'eau de la province de Québec; Rapport du Service de Protection; Tableau des forces hydrauliques concédées de 1867 à 1923; Forests and Waterfalls.

Agriculture.—*Annual Reports.*—Department of Agriculture; Competition for Agricultural Merit; Dairymen's Association; Pomological Society; Society for Protection of Plants. Journal of Agriculture and Horticulture, illustrated, monthly. *Bulletins.*—(1) Plans for Cheese and Butter Factories; (15) Culture du blé-d'Inde; (55) Poultry Raising in Towns and Villages; L'élevage des volailles dans les villes et villages; (63) La culture des arbres fruitiers; (40) Comment planter les arbres fruitiers; How to plant your Fruit Trees; (43) Bean Culture; (44) Vegetable Culture; (45) List of Presidents and Secretaries of Agricultural Societies; (67) Insectes nuisibles aux animaux de la ferme; (69) Enemies of Gardens and Orchards; (72) Nos érablières; (73) Instructions to school-farmers; (78) Farm Gas Engines; (83) L'élevage des dindons; (84) L'élevage des oies et canards; (87) La culture des pommes de terre; (89) Tile drainage of Farm Lands; (90) Experiments with Grain Crops; (92) The Corn Borer; (95) Comptabilité Agricole; Farm Account Book; (96) La remise à fumier; (100) L'égouttement du sol; Soils Drainage; (101) La luzerne; (102) Les conserves; (103) Les mauvaises herbes; (104) Les engrais chimiques. *Circulars.*—(22) Stable contests; (42) Sélection des troupeaux de volailles; (124) L'élevage du veau laitier; (125) Guide des cercles de fermières; (65) Common weeds and their control; (66) Alfalfa growing in Quebec; (72) Loi des mauvaises herbes. *Miscellaneous.*—(107) Ventilation des étables; (108) Orientation de la culture maraîchère; (117, 118, 119) Plans de poulaillers; (136) Lois sur l'agriculture; (138) Lois-Conseil d'Agriculture; (159) Brochure—Mangeons du fromage; (164) Dairy farming; (165) Status et règlements des coopératives; (184) Tableau des mauvaises herbes; (291) Cent poules par ferme; (293) The Maple, Pride of Quebec.

Highways.—NOTE.—Publications marked (1) are Bi-lingual; (2) Separate French and English editions; (3) English only.

(1) Annual Report of the Minister of Highways; (2) An Act Respecting the Roads Department (1927); (2) Official Bulletin of the Roads Department (Issued semi-monthly during the summer season and monthly during winter); (1) Official Highway and Tourist Map (1931); Tours in Quebec; (3) The Laurentian Promenade (32 pp. guide illustrated); (3) Montreal-Quebec (12) pp.; illustrated); (3) The Eastern Townships (12 pp. illustrated); (3) Lake St. John and National Park (12 pp. illustrated); (3) The Old World at your Door; (3) The Gaspé Peninsula (de luxe booklet); (3) Quebec, the Good Roads Province; (2) Gaspé Peninsula (260 pp.—complete guide—illustrated); (2) Along Quebec Highways (900 pp.—illustrated—price $2).

Mines Branch.—Esquisse Géologique et Minéraux utiles de la province de Québec (1927); Iron Ores of the Province of Quebec, by P. E. Dulieux (1915); Extracts from Reports on the District of Ungava, by T. C. Denis (1915); Report on the Copper Deposits of the Eastern Townships, by J. Austen Bancroft (1916); L'industrie de l'amiante dans la province de Québec (1917); Report on Gold Deposits of Lake Demontigny, by Ad. Maillriot (1922); Geological Sketch and Economic Minerals of the Province of Quebec (1924); Annual Reports on Mining Operations in the Province of Quebec.

Colonization, Game and Fisheries.—Annual Report of the Minister; Report on Repatriation; Fisherman's Paradise; The Laurentide National Park; Élevage du rat musqué; Fur Farming in the Province of Quebec, 1921; Le Guide du colon, 1927; Quebec Ready Reference, 1927.

Public Works and Labour.—Minister's Report; Workmen's Compensation Act; Annual Report of the Workmen's Compensation Commission; Statistics of Fire Losses in the Province.

Public Instruction.—Code scolaire (1927); School Law (1927); An Act respecting the Department of Education (1925); Regulations of the Catholic Committee (1930); Regulations of the Protestant Committee (1926); Memoranda of Instructions to Teachers for Intermediate and High Schools (1925); Annual Report; Financial Statement of the Superintendent of Public Instruction (annual); Mon premier livre (1st and 2nd parts) (1900), a fresh edition of which is printed every year; l'Enseignement primaire; Educational Record; Yearly circulars containing Instructions to School Boards and School Inspectors; Course of English and French for English Catholic Schools (1926); Manual respecting the course of study in the Protestant Elementary Schools; List of authorized text books.

Legislative Council.—Agenda Paper of the Legislative Council; Votes and Proceedings of the Legislative Council; Journals of the Legislative Council; Rules and Regulations of the Legislative Council.

Legislative Assembly.—Agenda Paper of the Legislative Assembly; Votes and Proceedings of the Legislative Assembly; Journals of the Legislative Assembly; Sessional Papers, Departmental Reports and Returns to Orders and Addresses of the Legislative Assembly; Report of the Clerk of the Crown in Chancery on Elections (published after every general election); Report of the Librarian of the Legislature; Annotated Rules and Standing Orders of the Legislative Assembly of Quebec; Private Bills in the Legislative Assembly of Quebec (a manual containing the rules relative to); Government and Legislature; List of the Chairmen and Members of the Committees of the Legislative Assembly.

ONTARIO.

Agriculture.—*Annual Reports.*—Minister of Agriculture; Agricultural College and Experimental Farm; Agricultural and Experimental Union; Stallion Enrolment Board; Agricultural Statistics; Bee-keepers' Association; Fruit Growers' Association; Vegetable Growers' Association; Entomological Society; Agricultural Societies; Horticultural Societies; Women's Institutes; Annual Report of Ontario Veterinary College. *Bulletins.*—(335) The Strawberry; (336) Cheese and Buttermaking; (337) Parasites Injurious to Sheep; (338) Hints on Judging Live Stock, Poultry, Grains, Grasses and Roots; (340) Parasites Injurious to Swine; (341) Paints and Painting; (342) Fire Blight; (343) New Fruits; (344) Fruit Tree Diseases; (345) Fungus and Bacterial Diseases of Vegetables; (346) Hardy Alfalfa; (347) Hay and Pasture Crops; (348) Amateur Dramatics; (349) Grain Smuts; (350) Warble Fly; (351) Insecticides, Fungicides and Herbicides; (352) Potatoes; (353) Rose Culture; (354) The Pear; (355) The Raspberry and Blackberry; (356) Insects attacking Fruit Trees; (357) Top Working and Repair Grafting, including Budding; (358) The European Corn Borer. (For previous bulletins, see p. 1046 of the 1927-28 Year Book.) *Specials* (without serial numbers.)—Food for the Family. *Colonization Branch.*—Northern Ontario Ready Reference.

An average charge of 10c. each (including postage, now required to be paid) for the above bulletins, and 15c. for annual reports, is made to individuals living outside of Ontario.

Attorney-General.—Reports of Inspectors; Legal Officers; Registry Offices; Insurance; Division Courts. Annual Reports of Liquor Control Board and Commissioner of Provincial Police. Coroners' Act (hand book). Powers and Duties of Justices of the Peace in Ontario (hand book).

Education.—Annual Report of the Minister of Education. Archæological Report. Schools Acts. Regulations and Courses of Study:—Public and Separate Schools; Continuation Schools; High Schools and Collegiate Institutes; Courses of Study and Examinations in Schools Attended by French-speaking Pupils; School Cadet Corps; General Announcement of Summer courses; Text Book Regulations, including list of those authorized and their prices, and the list of school manuals with their prices; Summer Schools for Training of Teachers; English-French Training Schools; Syllabus of Regulations and Normal School Courses for First and Second Class and Kindergarten-Primary Certificates; List of Teaching Days of High, Continuation, Public and Separate Schools; Recommendations and Regulations for Vocational Schools, etc.; Recommendations and Regulations for Agriculture and Household Science Departments; High School Entrance Examination Regulations; Announcement *re* the Carter Scholarships; The Penny Bank of Ontario; The School Attendance Acts and the Recommendations and Regulations and the Part Time Courses: The Consolidation of Rural Schools; List of Teachers' Manuals and prices; Suggestions for Teachers of Subnormal Children; Accommodation, Equipment and Grants for Auxiliary Training Classes; Literature Selections for Departmental Examinations; Regulations, Medical and Dental Inspection, Public and Separate Schools.

The following publications may be obtained free of charge at the Department of Education, Toronto, on the application of any Public Library Board.—Schools and Colleges of Ontario, 1785-1910, three volumes; Historical Education Papers and Documents of Ontario, 1858-1876, six volumes.

Game and Fisheries.—Annual Report, Department of Game and Fisheries; Ontario Game and Fisheries Laws; Summary of the Ontario Game and Fisheries Laws; Practical Observations on the Fox and Proven Treatments of Common Ailments; The Mink in Captivity; Report of the Special Fish Committee, 1928-30.

Labour.—*Legislation.*—Factory, Shop and Office Building Act; Steam Boiler Act; Canadian Interprovincial Regulations for the Construction and Inspection of Boilers, Tanks and Appurtenances; Stationary and Hoisting Engineers Act and Regulations Governing the Issuance of Certificates; Employment Agencies Act and Regulations Governing Employment Agencies; Apprenticeship Act; General and Trade Regulations Governing the Employment of Apprentices in Ontario; Regulations Respecting the Protection of Persons Working in Compressed Air; Minimum Wage Act; Orders of the Minimum Wage Board. *Reports.*—Annual Report of the Department of Labour, including the reports of the General Superintendent of the Ontario Government Offices of the Employment Service of Canada, Chief Inspector of Factories, Chief Inspector of Steam Boilers, Chairman of the Board of Examiners of Stationary and Hoisting Engineers, and of the Inspector of Apprenticeship; Annual Report of the Minimum Wage Board. *Booklets.*—Ontario, an Ideal Place for Labour; Department of Labour of Ontario; Why Certificates for Stationary and Hoisting Engineers?; Survey of Industrial Welfare in Ontario.

Department of Health.—*Legislation.*—(1) Public Health Act and Vaccination Act; (2) Vital Statistics Act; (3) Venereal Disease Prevention Act; (4) Cemetery Act; (5) Silicosis Act; (6) Embalmers and Funeral Directors Act. *Regulations.*—(1) Communicable Diseases, Tuberculosis, Summer Resorts and Boats, Sewage Disposal in Summer Resorts, Control of Meat, Pure Drinking Water in Public Places, Burial and Transportation of the Dead; (2) Disinfection; (3) Venereal Disease; (4) Sanitary Control of Lumber and Mining Camps; (5) Undertakers; (6) Slaughter Houses, Abattoirs and Manure; (7) Swimming Pools; (8) Bottling of Non-Intoxicating Beverages; (9) Auxiliary Water Supplies for Fire Protection; (10) Workers in Compressed Air; (11) School Medical and Dental Inspection; (12) Silicosis; (13) Minimum Standards for Tourist Camps and Refreshment Booths; (14) Requirements for Approval of Waterworks and Sewerage Systems; (15) Plumbing (proposed); (16) Regulations respecting Embalmers and Funeral Directors. *Publications.*—(1) Annual Report; (2) Bulletin for Health Officers; (3) Directory of M.O.H.'s and Secretaries of Local Boards of Health; (4) Skeleton Form Annual Report of M.O.H.; (6) Health Almanac; (7) The Baby; (8) Suggestions for Feeding of School Age Children; (9) Food and Nutrition; (10) Country Home and Summer Cottage; (11) Rabies; (12) Dental Guide; (13) Rural Sanitation (Bulletin No. 9); (14) Carbon Monoxide Poisoning. *Industrial Hygiene.*—(1) Occupational Diseases (A Rapid Reference Manual); (3) Health Confessions of Business Women; (4) Physical Examination in Industry; (5) What Physical Examination in Industry Does; (6) Industrial Hygiene and Human Conservation in Industry; (7) Development of Industrial Hygiene in Canada; (8) Lead Poisoning; (9) If This Were Your Hand; (10) Studies in the Control and Treatment of Nickel Rash; (11) Silicosis; Its Relation to Tuberculosis; (13) A Case of Silicosis with Autopsy; (14) Uric Acid Determination in the Blood; (15) Ventilation in the Light of Modern Research; (16) Modern Principles of Efficient Lighting; (17) Clothes and Colds; (18) Some Clinical Aspects of Industrial Poisoning; (19) Hazards for Spray Painting Machines. New Series: (1) A Study of the Atmospheric Conditions in Two Ontario Schools; (2) Some Clinical and Pathological Observations on Silicosis in Ontario; (3) Development of Industrial Hygiene in Canada; (4) Infection of Industrial Accidents is Costly; (5) Some Queries About Respiratory Disease in Industry; (6) Treatment of Lead Poisoning; (7) Report on an Investigation to Determine the Hazard to the Health of Operators Using the Spraying Machine for Painting: The Risk of Lead Poisoning; (8) The Treatment of Lead Poisoning; (9) Hydrogen Sulphide Poisoning; (10) Chrome Poisoning; (11) Some Points of Interest in School Ventilation; (12) Review of Literature Dealing with Health Hazards in Spray Painting (National Research Council of Canada); (13) Silicosis in Canada (International Silicosis Conference); (14) Carbon Monoxide Poisoning. *Leaflets re Communicable Diseases.*—(1) Consumption—(a) General Precautions. (b) Personal Precautions; (2) Diphtheria—(a) Prevention of Diphtheria; (3) Scarlet Fever—(a) How to Prevent Scarlet Fever; (4) Measles; (5) Smallpox—(a) Vaccination; (6) Anterior Poliomyelitis; (7) Whooping Cough; (8) Cancer; (9) Venereal Disease—(a) General Facts, (b) Facts for Young Women, (d) Latrine Posters for Men.

Lands and Forests.—(Free Distribution.) Annual Report. Handbook on Northern Ontario Settlers Lands and Colonization. Handbook on Summer Homes, Tourists and Campers in Ontario. The Forest Trees of Ontario (25c.). Woodlots of Ontario. Tree Planting, Ontario. Water Powers of Ontario. The Ferguson Highway. The Sault Ste-Marie-Pembroke Road. Forestry in Ontario. Gathering Pine Cones. Trees for Schools.

Mines.—The Mining Act, R.S.O. 1927, with amendments in 1928, 1929 and 1930; Handbook—Ontario's Mines and Mineral Resources; Bulletin 76, Preliminary Report on the Mineral Production of Ontario in 1930; Report of Royal Ontario Nickel Commission, 1917; Report of Ontario Iron Ore Committee, 1923; Volume

XXX, Part II, Ontario Gold Deposits; Volume XXXIII, Part II, 1924, Porcupine Gold Area; Final Report of Joint Peat Committee, 1925; Volume XXXVII, Part II, 1928, Kirkland Lake Gold Area; Volume XXXIX, Part I, 1930, Statistical Review and Mines of Ontario; Bulletin No. 25, List of Publications, giving all reports issued up to August, 1927, and supplement to March, 1930.

Premier.—Report of the Hydro-Electric Power Commission of Ontario and the Timiskaming and Northern Ontario Railway Commission. Tourists' Handbook.

Provincial Secretary.—Annual Reports: Hospitals and Charitable Institutions; Prisons and Reformatories; Hospitals for the Insane, Feeble-minded and Epileptics; Children's Aid Branch. Annual Report of the Secretary and Registrar of the Province of Ontario (this report is presented to the Legislative Assembly each year, but has not been printed for several years). The Companies Act, including the Extra-Provincial Corporations Act, The Mortmain and Charitable Uses Act and the Companies Information Act. The Security Frauds Prevention Act, 1928. The Co-operative Credit Societies Act. Municipal Bulletins. Act respecting the Solemnization of Marriage. Ontario Board of Parole.

Public Highways.—Annual Report: Annual Proceedings, Ontario Good Roads Associations; (9) Report of the Ontario Highways Commission, 1914; (10) Regulations respecting Township Road Superintendents, 1916; (11) Regulations respecting County Roads, 1920; (14) Township Road Improvement, 1918; (15) Highway Traffic Act, 1931; (16) General Specifications for Concrete Highway Bridges, 1920; (17) General Specifications for Steel Highway Bridges, 1923; (18) Highway Bridges, 1917; (19) General Plans for Steel Highway Bridges, 1917; (22) Report on Street Improvement, 1917; (29) Regulations respecting Township Roads, 1920; (34) The Planting and Care of Roadside Trees, 1923; (35) Public Commercial Vehicles Act, 1930. Regulations respecting Public Commercial Vehicles, 1931. Consolidated Highway Improvement Act, 1928, with Regulations passed thereunder. Official Government Road Maps of Ontario, price 50c.

Public Works.—Annual Report of the Minister, with reports of the Architects, Engineer, Statements of Secretary and of Accountant. Report of the Queen Victoria Niagara Falls Park Commission.

Registrar-General.—Vital Statistics Act. Physicians' Pocket Reference to the International List of Causes of Death. Annual Report of Births, Marriages and Deaths.

Treasury.—Annual Statements; Main, Supplementary and Further Supplementary Estimates of Expenditure; Public Accounts; Budget Address of Treasurer delivered in the Legislative Assembly; Auditor's Report; Bureau of Archives Report.

MANITOBA.

Agriculture.—*Booklets:* Manitoba—the Bull's-eye Province of Canada; Le Manitoba (French); Annual Crop and Live Stock Reports; Map of the Province; Calendar of the Manitoba Agricultural College. *Bulletins and Circulars.*—Alfalfa and Sweet Clover Growing in Manitoba; Sweet Clover; The Trench Silo; Making Silage in Manitoba; Weeds of Manitoba; Weed Control in Manitoba; Noxious Weeds Act; How to Kill Couch Grass; Dealing with the Weeds Problem in Manitoba; Questions and Answers about the Sow Thistle; Preparing Grain for Exhibition Purposes; Good Seed Pays; Perennial Sow Thistle and What Can be Done to Control It; The Root Crop in Manitoba; Sow Good Seed and Reap More Dollars; Milk and Cream Tests; The Nutrition of the Family; Honey—When and How to Use It; Farm Butter-Making; Cheese-Making on the Farm; The Cream Separator on the Farm; Home Made Brooders; Fattening, Killing, Dressing and Marketing Chickens; Turkey Raising in Manitoba; The Beef Ring; Co-operative Marketing in Manitoba; Protection from Lightning; Horses in Manitoba; Learning to Judge Farm Animals; Sheep in Manitoba; Have you Dehorned your Market Cattle?; Dairy Cattle; Baby Beef Production in Manitoba; Growing Small Fruits in Manitoba; Growing Vegetables in Manitoba; Vegetable Insects and their Control; Birds in Relation to Agriculture; Debates and Public Meetings; Canning, Pickling and Preserving; Dressmaking; Meat Curing Recipes; Salads and Sandwiches; Laundering and Dyeing; Fifty Supper Dishes.

Education.—Annual Report. Empire Day Booklet. Consolidation of Schools. Programme of Studies. Public School Act. The New Day. Notes for Teachers on Dental Hygiene.

Municipal Commissioner.—Statistical information respecting the Municipalities of the Province; Tax Arrears and other Information, and list of names and addresses of administrative and health officials of each Municipality. Report of Municipal and Public Utility Board. Manitoba Tax Commission.

Public Works.—Annual Report, included in Sessional Papers. Report of Insurance.

Attorney-General.—Annual Report. Government Liquor Commission. Workmen's Compensation Board.

Provincial Treasurer.—Public Accounts; Estimates; Budget Speech. Report of Rural Credits Branch. Report of Manitoba Farm Loans Association.

Provincial Secretary.—Manitoba Gazette. Journals and Sessional Papers. Statutes of the Province.

Mines and Natural Resources.—Mines and Mining in Manitoba; Mining Maps; Sectional Land Maps.

Telephones.—Annual Report of Manitoba Telephone System.

Health and Public Welfare.—Annual Report; Organization of the Department of Health and Public Welfare; Manitoba Mother; Monthly Prenatal and Postnatal letters; Manitoba Baby; Manitoba Child; Patterns for Infants' Layette (ten cents); Regulations *re* Boarding Homes for Children, Maternity Homes, and Day Nurseries; Quarantine Regulations; The Common Cold; Measles; Scarlet Fever; Diphtheria; Diphtheria Immunization; Whooping Cough; What you should know about Tuberculosis; Typhoid Fever; Information for Parents—teaching Sex Hygiene to Children; Information for Young Women about Sex Hygiene; Information for Young Men—Syphilis and Gonorrhœa; Smallpox and Vaccination; Infantile Paralysis; Sanitation; Our Enemy—the Fly; Humidity in House Heating; Household Insects and Their Control; Advice to Parents and Teachers in the Prevention, Care, and Control of Communicable Diseases; Health Training material for teachers; Report of the Royal Commission on Child Welfare Division; Report on the Poliomyelitis (Infantile Paralysis) Epidemic in Manitoba 1928.

SASKATCHEWAN.

Agriculture.—Annual Report of the Department of Agriculture. Annual Reports of Branches, etc.:—Dairy, Live Stock, Field Crops, Statistics, Extension Department of College of Agriculture, Commission Reports:—Live Stock Marketing, Better Farming, Wheat Marketing. Bulletins and leaflets on Live Stock, Field Crops, Dairying, Farm Buildings, Tillage Methods, etc.

Other Publications.—Sessional Papers. Annual Reports:—Department of Railways, Labour and Industries; Department of Education; Department of Highways; Department of Municipal Affairs; Department of Provincial Secretary; Department of Public Works; Department of Public Health; Department of Telephones; Local Government Board; Public Accounts; Cancer Commission; Research Foundation; Mental Hospitals; The Saskatchewan Gazette. By Bureau of Publications:—Weekly News Bulletin; Pamphlets on Saskatchewan—Legislation, Natural Resources, etc.

ALBERTA.

Agriculture.—Alberta, a brief, well-illustrated handbook on the Province; Alberta's Beauty Spots; Official Highway Map of Alberta; Annual Report of the Department of Agriculture; Statistics of Progress; The Ploughing Match; Summer-fallow in Southern Alberta; Sowing Good Seed; Storing of Roots; Alberta's Weed Problem; Weeds Poisonous to Live Stock; Soil Cultivation; Building up a Dairy Herd; Control of Grasshoppers; Destruction of Gophers; Sheep in Alberta; The Suckling Period; School Fairs Calendar; Agricultural Schools Calendar; Growing Feed in Southeastern Alberta; Meat Curing on the Farm; Turkey Breeding and Management.

Education.—Annual Report; Courses of Studies for Elementary Schools; Regulations *re* Public School Leaving Examinations; Regulations *re* Examinations for Secondary School Grades; Handbook for Secondary Schools; Promotion Tests for Grades V, VI and VII; Departmental Examinations for Grades VIII-XII; Pamphlets on Picture Study; Architecture and Sculpture; Summer School Announcement; Course of Studies and Examinations for Commercial Diplomas; Normal School Announcement; Night Class Instruction in Mining Centres; Technical Education in Mining Centres; Bulletin and Regulations covering School Buildings in Rural and Village School Districts; Series of Plans and Specifications for Teachers' Residences; Series of Plans for one- and two-roomed Schools, with Specifications; The Certification of Teachers in Alberta; Annual Announcement of the Provincial Institute of Technology and Art; School Act; Geography Manual for High Schools; Physical Education for Rural Schools; Physical Education for Secondary Schools; Rural Education in Alberta; Civic Manual for High Schools; Seat Work Problems for Junior Grades.

Attorney-General—Annual Report on Dependent and Delinquent Children.

Treasury.—Budget Speech containing extracts from Public Accounts and other financial statements; Public Accounts.

Public Works.—Annual Report; Official Highway Guide.

Municipal Affairs.—Annual Report of Department; List of Alberta Municipalities; Report of the Alberta Assessment Commission Triennial Assessment, 1931-1933.

Public Health.—Annual Report of Department; Annual Report on Vital Statistics; Bulletins issued monthly on various Health Subjects. Pamphlets regarding Infectious Diseases—Diphtheria, Scarlet Fever, Measles, Whooping Cough, Smallpox, etc. (in different languages). Public Health Bulletin for Teachers; Alberta Mother's Book; Mouth Health; "What you should know about Cancer" (book); General Information regarding Tonsils; Health Rules for School Children; Hints on Home Nursing; Goitre; Systems of State Medicine (book).

Other Publications.—Annual Reports are also issued by the following Departments and Branches:—Railways and Telephones, Treasury (Insurance Branch), Public Accounts, Board of Public Utilities, Labour Bureau.

BRITISH COLUMBIA.

Agriculture.—*Dairying.*—(5) Varying Butter-fat Tests; (71) Butter-making on the Farm; (2) Farm Cheese; (12) Rules Governing Cow-testing Associations in B.C.; (4) Clotted Cream; (17) The Story of Feed Unit; (6) Care of Milk and Cream; (18) Certified Milk and Butter-fat Records, 1929; (1) Ropy Milk in B.C.; (13) A Farm Dairy Sterilizer; (9) Dairy Farm Sterilizing Equipment. *Diseases and Pests.*—(45) Anthracnose; (39) Apple Aphides; (44) Apple-scab; (34) Woolly Aphid of the Apple; (38) The Lesser Apple-worm; (32) Cabbage-root Maggot; (37) The Imported Cabbage-worm; (2) Colorado Potato-beetle in B.C.; (35) Currant Gall-mite; (68) Diseases and Pests of Cultivated Plants; (66) Fire-blight; (63) Locust-control; (61) Making Lime-sulphur at Home; (36) The Onion-thrips; (41) The Oyster-shell Scale; (31) Peach-twig Borer; Spray Calendar; (40) Soap Solutions for Spraying; (68) Oil Sprays; (33) Strawberry-root Weevil. *Field Crops.*—(6) The Jerusalem Artichoke; (8) Field Corn; (3) Kale and Rape Crops; (86) The Potato in B.C.; (7) Root-seed Production; (98) Roots and Root-growing; (4) Noxious Weeds. *Fruits and Vegetable Growing.*—(57) Blackberry Culture; (69) Cantaloupe-growing in B.C. Dry Belt; (70) Celery Culture; (56) Currant and Gooseberry Culture; (43) Gardening on a City Lot; (54) Loganberry Culture; (51) Orchard Cover Crops; (53) Selection of Orchard Sites and Soils; (62) Planting Plans and Distances; (60) Pruning Fruit-trees; (55) Raspberry Culture; (67) Rhubarb Culture; (58) Strawberry Culture; (65) Tomato-growing in B.C.; (42) Top-working of Fruit-trees and Propagation; (64) Varieties of Fruit recommended for Planting in B.C. *Live Stock.*—(67) Care and Feeding of Dairy Cattle; (64) Goat-raising in B.C.; (60) Hog-raising in B.C.; (99) Care and Management of Sheep. *Poultry.*—(27) Breeding-stock Hints; (15) Profitable Ducks; (25) Hints on Egg Hatching; (93) Feeding for Egg Production; (12) Management of Geese; (31) The Goose; (39) Natural and Artificial Incubation and Brooding; Poultry-breeders' Directory; (63) Poultry-house Construction; (11) Poultry-keeping on a City Lot; (49) Market Poultry; (26) Practical Poultry-raising; (19) Poultry Rations for Chicks and Layers; (2) Tuberculosis in Poultry; (29) Rabbit Culture; (80) Fur-bearing and Market Rabbits; (28) Rabbit Recipes; (30) Sod-house Construction; (4) Management of Turkeys. *Settlers' Information.*—(43) Agriculture in the Similkameen, Boundary, and Kettle River Districts; (34) Agriculture in West Kootenay; (51) Central B.C.; (42) The Columbia Kootenay Valley; (44) Some Facts about B.C.; (40) The Okanagan Valley; (33) Vancouver Island and Gulf Islands. *Economic Survey Bulletins.*—(36) Dairy-farm Survey; (103) Dairy Survey; (41) Poultry-farm Survey, 1921; (101) An Economic Study of Small-fruit Farming in B.C.; (39) Small-fruit Survey, 1921; (105) Tree-fruit Farming in B.C.; (49) Tree-fruits Survey, 1921-25. *Miscellaneous.*—(92) Bee Culture in

B.C.; (85) Clearing Bush Lands in B.C.; (50) Exhibition Standards of Perfection; (48) Recommendations and Suggestions to Fall Fair Associations; Farm Account Book; The Farmers' Institutes of B.C.; Farmers' Institute By-laws; Farmers' Institute Rules and Regulations; Board of Horticulture Rules and Regulations; (47) Use of Water in Irrigation; (45) Judging Domestic Science and Women's Work, with Hints to Exhibitors; List of Publications; (35) How to Pack Nursery Stock; (83) Preservation of Food; (66) Silos and Silage; (5) Soils, Peat and Muck; Women's Institute By-laws; Women's Institute Rules and Regulations. *Reports.*—Agricultural Statistics, 1929; Climate of B.C., 1929; Department of Agriculture Reports, Years, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, and 1929.

Lands.—*Forest Branch.*—Circulars: "How to Obtain a Timber Sale" and "Forests and Forestry in British Columbia"; Grazing Regulations. *Land Settlement Board.*—Land Settlement Board Booklet.

Mines.—Comprehensive annual reports, special bulletins, preliminary reports, etc., obtainable on application to the Department of Mines.

Bureau of Provincial Information.—The Manual of British Columbia, 50c.; British Columbia, Playground of the World; Land of the Golden Twilight; Tabloid Travel Talks; Touring in British Columbia; Big Game of British Columbia. *Lands Series of Bulletins.*—(1) How to Pre-empt; (2) Some Questions and Answers regarding British Columbia; (3) British Columbia—Northern and Central Interior; (5) British Columbia—Southern Interior; (6) British Columbia Coast, Lower Mainland; (7) British Columbia Coast, Toba Inlet to Queen Charlotte Strait; (8) British Columbia Coast, Queen Charlotte Strait to Milbanke Sound; (9) British Columbia Coast, Milbanke Sound to Portland Canal; (10) Crown Lands, Purchase and Lease; (11) Cariboo Land Recording Division; (12) Kamloops Land Recording Division; (13) Similkameen Land Recording Division; (14) Vancouver Island; (15) Queen Charlotte Islands; (16) Cranbrook and Fernie Land Recording Divisions; (17) Yale Land Recording Division; (18) Osoyoos Land Recording Division; (19) Nicola Land Recording Division; (20) Nelson and Slocan Land Recording Division; (21) Revelstoke and Golden Land Recording Division; (22) Skeena Land Recording Division; (23) Stikine and Atlin Land Recording Division; (24) Hazelton Land Recording Division; (25) Peace River District; (26) Omineca District, Nation Lakes, etc.; (27) New Westminster Land Recording Division; (28) François-Ootsa Lakes; (29) Endako and Nechako Rivers; (30) Stuart and Babine Lakes; (31) Vicinity of the Pacific Great Eastern Railway (Squamish to Clinton); (32) Vicinity of the Pacific Great Eastern Railway (Clinton to 52nd Parallel); (33) Central Lillooet Division; (34) The Chilcotin Plateau; (35) Fort George Land Recording Division, Central and Western Portions; (36) South Fork of the Fraser and Canoe River Valleys; Kokanee Park; Mount Garibaldi Park; Mount Robson Park; Strathcona Park, Vancouver Island.

CHAPTER XXIX.—THE ANNUAL REGISTER, 1930.

Section 1.—Dominion Legislation, 1930.

Finance and Taxation.—Three Appropriation Acts were passed during the session, *viz.*, cc. 1, 2 and 50 applying to the fiscal year ended Mar. 31, 1931. C. 1 and c. 2 granted respectively $42,625,436.14 and $61,070,000 for defraying the general expenses of the Government, the amount under c. 1 being one-sixth of the several items in the Estimates, and that under c. 2 being provision for supplementary estimates as per Schedule B. By c. 2 there was also provided a sum of $6,638,030.23 for the previous fiscal year (1929-30). By c. 50 a further sum of $213,127,180.71 was granted out of the Consolidated Revenue Fund for the fiscal year 1930-31, towards defraying the outstanding five-sixths of the several charges and expenses of the public service as set forth in Schedule A accompanying the Act, and $21,101,944.75 as set forth in Schedule B (Supplementary Estimates).

The Income War Tax Act (c. 97, R.S.C. 1927) was amended by c. 24 as regards the exemption of $500 on account of certain dependent relatives, where not already provided for by the Act. Donations of not more than 10 p.c. of the net taxable income of any taxpayer, made to organizations operated exclusively for charity, and income, to the extent of $5,000 only, derived from annuity contracts (where a husband and wife both hold annuity contracts the limit is $5,000 between them) were also exempted from income tax. Other provisions were made in relation to the corporation tax and family corporations. The dividends and interest received by non-resident officers and employees of businesses in Canada were rendered taxable.

C. 43 amended the Special War Revenue Act (c. 179, R.S.C. 1927) by the imposition of an excise tax on the sale, transfer or assignment of stocks, bonds, debentures and debenture stock according to a schedule outlined in the Act. Provision was also made for the collection of the tax and for penalties in cases of obstruction or refusal to comply with the conditions laid down.

The Customs Tariff was amended by c. 13 with respect to the rates of duty levied on a large number of commodities listed on Schedule A accompanying the Act. The Excise Act was amended by c. 18, principally as regards the conducting of enquiries or investigations in relation to the excise duties on screened malt, penalties for the sale of spirits unlawfully manufactured or removed from bond, and as regards the manufacture, sale and removal of tobacco.

By c. 7, financial refunding arrangements to the amount of $8,609,000 in connection with certain lines of the Canadian National Railways located principally in the State of Vermont, and by c. 8, the refunding of other maturing financial obligations, not to exceed the aggregate face value of certain original securities, *viz.*, $20,042,038.84, were provided for. C. 46 authorized the Canadian National Railway Company to issue debentures or other securities to the value of $14,150,000 in respect of the purchase of securities and the construction of works and facilities in connection with the Toronto Terminals Railway Company.

Agriculture.—By c. 30, the Maple Sugar Industry Act, 1930, provisions were made to prevent the manufacture or sale of adulterated maple sugar or syrup. The trade use of the word " maple " was restricted to pure products, while manufacturing or packing plants engaged in interprovincial or export trade in maple products were required to be registered and licensed by the Minister of Agriculture. Inspectors were appointed for carrying out the provisions of the Act and were vested with powers of entry, sampling of goods, examination of books, and seizure of goods, necessary to the enforcement of the Act.

The Canada Grain Act, 1930.—The Canada Grain Act, 1925,[1] as amended in 1929, was completely revised and re-written as the Canada Grain Act, 1930, (c. 5) effective Sept. 1, 1930.

A number of changes and additions were embodied in the new Act, which now sets out very clearly the powers and duties of the Board of Grain Commissioners and permits it to deal with the practical operations of the trade by regulation—a much more elastic means of control than statutory enactment.

One of the principal changes in the Act provides for the complete registration of terminal documents by the Board. It was the practice under the previous Acts to register warehouse receipts as to weight only, but now these documents are registered as to weight and grade and are the first charge against the grain with the exception of liens established for handling and freight in accordance with the Act. Binning of the first four grades of wheat is controlled by the Board through this system of registration of documents, together with annual stock-taking at the end of each crop year.

The constitution of the Committees on Grain Standards, formerly known as Grain Standards Boards, was re-organized to be more in accordance with practical requirements.

In the new Act the general standards for all grains are set out much more fully and in a more practical way than in previous Acts.

The definitions of the various classes of elevators have been changed, the Act now providing for three classes of elevators, namely, terminal, eastern and country. The terminal elevators are further classified as public terminals, semi-public terminals or private terminals and the country elevators are divided into two classes, public country elevators and private country elevators.

Fisheries.—C. 10 confirmed and sanctioned the Convention signed at Washington May 26, 1930, in respect of Canada and the United States, concerning the protection, preservation and extension of the sockeye salmon fisheries of the Fraser River system. Inconsistent legislation previously existing was amended to conform with the obligations undertaken under the Convention.

The Department of Fisheries Act, c. 21, provided for the organization of the Department of Fisheries as separate and distinct from the Department of Marine (cf. c. 31 under Marine) and also outlined the duties and powers of the Minister.

The Fish Inspection Act (c. 72, R.S.C. 1927) was amended by c. 22 as regards its application to the containers used for packing and marketing certain specified kinds of fish. The Governor in Council is also empowered to extend the application of the Act to other kinds of fish than those actually specified, to fish oils, containers, and fish-curing establishments. Part VI of the Inspection and Sale Act (c. 100, R.S.C. 1927) was repealed.

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[1] A summary of this Act of 1925, contributed by the Board of Grain Commissioners, was published at pp. 1017-1018 of the 1925 Year Book. The subsequent amendments of 1929 were dealt with at pp. 1047 and 1048 of the 1930 Year Book.

Insurance.—The Insurance Act (c. 101, R.S.C. 1927) was amended by c. 26 of the 1930 Statutes as regards: the appropriation of profits, the release of securities to a liquidator under the Winding-up Act, value and number of unissued shares of Canadian fire insurance companies, and other matters connected with capital stock and voting privileges.

Interior.—By cc. 29, 41, 3 and 37, the natural resources of the Crown Lands of the Prairie Provinces and those of the Railway Lands and Peace River Block in British Columbia, previously administered by the Dominion Government, were transferred to the provinces of Manitoba, Saskatchewan, Alberta and British Columbia, respectively. These Acts brought the provinces concerned as nearly as possible into the same position as the original provinces of Confederation in respect of their natural resources (Sec. 109, B.N.A. Act, 1867).

The Timber Marking Act (c. 198, R.S.C. 1927) was amended by c. 45 to permit of the rectifying of entries in the Timber Marks register by the Exchequer Court.

C. 33 of the Statutes of 1930—the National Parks Act—provided for the Dominion Parks as established under the Dominion Reserves and Parks Act (c. 78, R.S.C. 1927) being designated National Parks of Canada, and re-defined the areas and boundaries of Banff, Jasper, Yoho, Glacier and Fort Beauséjour Parks. Fort Howe, Vidals Point and Menissawok Parks were thereby abolished.

Justice.—The Criminal Code (c. 36, R.S.C. 1927) was amended by c. 11 of the Statutes of 1930 as regards: the limitation of the meaning to be applied to "seditious intention"; the sale by a broker of shares which he is carrying on margin for a customer, if by such sale he reduces the amount of such shares under his control below the amount he should be carrying for all customers; driving a motor vehicle while intoxicated or under the influence of any narcotic; the sale of cattle injected with tuberculin by other than qualified veterinarians; and in several other respects. C. 12 confirmed the procedure as set out in Sec. 66 of the North-West Territories Act (1886) as regards criminal procedure to be inapplicable to the Supreme Court of Alberta. The Exchequer Court Act (c. 34, R.S.C. 1927) was amended by c. 17 as to the procedure to be followed in any case in which the Crown finds itself in possession of monies belonging or payable to others where doubt exists as to whom such payment should be made.

The Judges Act (c. 105, R.S.C. 1927) was amended by c. 27 to permit of the granting of an annuity to a judge of the Supreme Court of Canada or of the Exchequer Court of Canada equal to the salary of such judge where he held office on Mar. 31, 1927, and continued in office until he attained the age of 75 years. Where such a judge was appointed after the above-mentioned date and later ceased to hold office by reason of having attained the age of 75 years, provided he has continued in office for at least ten years, he may be granted an annuity equal to two-thirds of his salary at the time when he so ceased to be a judge.

C. 39 provided for a readjustment of pensions for members of the R.C.M.P. retired to pension prior to May 31, 1924.

The Supreme Court Act (c. 35, R.S.C. 1927) was amended by c. 44 to provide for appeals, where over $2,000 is involved, direct to the Supreme Court from courts other than courts of last resort in a province, by leave of such courts of last resort and by consent of the parties.

Labour.—The Fair Wages and Eight Hour Day Act, 1930, (c. 20), provides that Government contracts shall be subject to conditions respecting fair wages and an eight hour day and that these advantages shall apply to all workmen employed by the Government of Canada. The Act also empowers the Minister of Labour to make regulations implementing and extending the Act along specified lines.

Marine.—The Department of Marine was constituted by c. 31—the Department of Marine Act. The duties and powers of the Minister were outlined and the necessary organization provided for. Thereby the Department of Marine and Fisheries Act (c. 125, R.S.C. 1927) was repealed.

Pensions and National Health.—C. 23 provides for analysts, in addition to members of the staff of the Department of Pensions and National Health, being designated "Dominion Analysts" upon request of any province, city or other municipality, provided they are duly qualified.

The Militia Pensions Act (c. 33, R.S.C. 1927) was amended by c. 32 to permit of the adjustment of officers' pensions in certain cases and provides for the granting of pensions and of compassionate allowances to widows and children of officers who die after a period at which pensions might be granted them, or who were in receipt of pensions at the time of their deaths.

The Pensions Act (c. 157, R.S.C. 1927) was amended by c. 35 as regards the power to administer oaths by members of the Commission, the appointment of a Pension Tribunal and a Pension Appeal Court and the establishment of the "Veterans' Bureau". In specially meritorious cases it was provided that "the Commission may grant a compassionate pension or allowance where the Tribunal or Appeal Court has decided against a pension under the Act". Provision is also made for the restoration of pensions in certain cases where a pensioner has accepted a final payment, and the widow of a pensioner is made eligible to receive a pension where her husband's death has resulted from injury or disease or aggravation thereof attributable to military service.

By c. 38, the time for receiving applications under the Returned Soldiers' Insurance Act (c. 54, Statutes of 1920) was extended three years to Aug. 31, 1933.

Under c. 48, the War Veterans' Allowance Act, provision is made for specified allowances ranging up to $240 for single men and $480 for married men with dependants to any veteran of the World War who, having attained the age of 60 years, is, in the opinion of the special Committee appointed under the Act, permanently unemployable by reason of physical or mental disability and has been domiciled in Canada for one year.

Soldier Settlement.—The Soldier Settlement Act (c. 188, R.S.C. 1927), as amended by c. 48 of the Statutes of 1928, was further amended by c. 42. The Board is required as on the standard date in 1929, to credit a settler's account with 30 p.c. of his indebtedness to the Board, provided such settler is qualified and established on the land in accordance with the provisions of the Act and has not abandoned his land nor terminated his agreement with the Board. Certain stipulations are made in cases where an application for revaluation under the Act has not been disposed of.

Trade and Commerce.—By c. 6, an Act was passed to place Canadian coal used in the manufacture of iron or steel on a basis of equality with imported coal in accordance with the recommendations of the Royal Commission on Maritime Claims. Adjustments were authorized by payments from the Consolidated Revenue Fund to manufacturers of iron or steel of 49½c. per ton of bituminous coal mined and converted into coke in Canada when used in iron smelting or the manufacture of steel ingots or castings in Canada.

Under c. 9 the Companies Act (c. 27, R.S.C. 1927) was amended with regard to the issue of no par value shares, corporate name, capital required before commencing business, incidental and ancillary powers other than those set out in the letters patent, procedure with regard to prospectuses, shares of stock, mortgages and charges, etc.

The Export Act (c. 63, R.S.C. 1927) was amended by c. 19, to prevent the clearance of vessels with intoxicating liquor on board, or the movement of liquor from bond, where such liquor is destined for a country where its importation is prohibited by law.

By c. 34 the Patent Act (c. 150, R.S.C. 1927) was amended, mainly in regard to the extension, to persons who had previously filed an application for a patent in a foreign country, of the same privileges as if filed in Canada, provided such foreign country affords similar privileges to citizens of Canada.

The Winding-up Act (c. 213, R.S.C. 1927) was amended by c. 49 as regards the persons by whom a winding-up order may be made.

Transportation.—The Railway Act (c. 170, R.S.C. 1927) was amended by c. 36, chiefly to permit railways to be carried upon, along or across existing highways only by permission of the Railway Board, provided such permission when granted along any highway within the limits of any city or incorporated town be granted with the consent of the municipal authority concerned. Railway companies were also allowed by this chapter to sell live animals and perishable goods upon which the tolls have not been paid on demand, or other goods if the tolls are not paid four weeks after demand (the time limit is two weeks for bulk goods) and to retain out of the proceeds all tolls and charges.

C. 47 is an act to provide for the regulation of vehicular traffic on Dominion property and defines the scope of such regulations as may be made thereunder.

Miscellaneous.—By the Manitoba Boundaries Extension Act of 1930 (c. 28) the boundary of the province of Manitoba was extended in the Northwest Angle of Lake of the Woods inlet as described in the Schedule accompanying the Act.

By c. 25 the Indian Act (c. 98, R.S.C. 1927) was amended to permit the Superintendent General of Indian Affairs to apply the whole or any part of the annuities and interest monies of Indian children attending industrial or boarding schools to their maintenance and to provide for the attendance of all Indian children between 7 and 16 years of age at industrial or boarding schools and for the further period of two years, if thought advisable in the discretion of the Superintendent General, where it would be detrimental to any particular Indian child to be discharged on attaining the age of 16 years.

By c. 14, the Divorce Act (Ontario) 1930, it was enacted that the law of England regarding the dissolution and annulment of marriage, as it existed on July 15, 1870, should be made the law of Ontario in so far as applicable, and by c. 15, The Divorce Jurisdiction Act, 1930, it was provided that in any province in Canada in which there is a court having jurisdiction to grant a divorce *a vinculo matrimonii,* a married woman deserted and living apart from her husband for two years may commence proceedings for divorce.

By c. 16, the Dominion Election Act (c. 53, R.S.C. 1927) was amended as regards: the definition of the term "resident", the preparation of voters' lists, the marking of ballots by blind voters and those unable to write, the appointment of a legal adviser to the Chief Electoral Officer and other matters.

By c. 40, the Salaries Act (c. 182, R.S.C. 1927) was amended to permit of the payment of $10,000 annual salary to the Minister of Marine and to the Minister of Fisheries.

Legislation of the Special Session of the Seventeenth Parliament—September, 1930.

The first Session of the 17th Parliament met on Sept. 8, 1930 for the express purpose of alleviating conditions brought about by the unemployment situation. To this end three Bills were introduced, which passed the House and Senate, and, after receiving the Royal Assent, became Acts, as follows:—

(1) The Unemployment Relief Act, 1930, providing the sum of $20,000,000 to aid the provinces and municipalities in their unemployment relief work (see pp. 778-779 of the present volume).

(2) The Customs Amendment Act, which introduced amendments respecting "dumping".

(3) The Customs Tariff Amendment Act, which introduced tariff changes on a specified list of commodities with a view to assisting the industries concerned and so indirectly helping the unemployment situation.

Section 2.—Provincial Legislation.

A list of the public Acts of the Provincial Legislatures usually appears under this Section of the Year Book. In order to conserve space, it has been decided this year to refer the reader to the different provincial authorities for information in this connection. It is felt that whatever is lost to those readers who are interested in having all provincial legislation brought together and listed under one head, is more than offset by the information of more general interest which is has been possible to include in the limited space available, but which would otherwise have had to be omitted.

Section 3.—Principal Events of the Year, 1930.

The Economic and Financial Trend.—Nineteen hundred and thirty was undoubtedly a year of serious depression in Canada, reflecting conditions throughout the civilized world. While the Dominion was less affected than most other countries, as was evidenced by the comparative position of Canadian Government securities in the money markets of London and New York, yet the country suffered severely from the repercussions of the world situation. One of the main elements of the depression was the great and disproportionate decline in wholesale prices throughout the world, affecting more particularly the food products and raw materials which Canada supplies in large quantities to other countries. In December, 1930, the general index number of wholesale prices in Canada, which was fairly representative of those of other countries, stood at 77·8 p.c. of the 1926 average as compared with 96·0 p.c. in the same month of 1929, or a decline of nearly one-fifth in the twelve months.

Agriculture.—In a country such as Canada, where agriculture occupies a large place among the economic activities of the nation, crop yields and prices cannot but affect the general trend of business. The subnormal wheat crop of 1929 adversely affected the earnings of the basic industries such as the railways, lake and ocean freight carriers, and a direct result of the retarded movement of the 1929 wheat crop was the inactivity of the principal harbours and shipping centres. The second phase of the wheat situation consisted in the drastic decline of prices during 1930. One of the chief reactionary factors influencing the social economy of Canada in the period under review was the reduction in the purchasing power of the farmer. The obvious causes were the moderate yields of 1929 and the very low prices obtained for agricultural products.

While the wheat crop of 1930, estimated at nearly 398,000,000 bushels, was less than the bountiful harvests of 1927 or 1928, the gain over 1929 was 93,352,000 bushels or 30·6 p.c. The estimated value of the wheat crop of 1930 was placed at $174,800,000 compared with $319,700,000 for the much smaller crop of the preceding year. The average price per bushel was placed at 44 cents for the 1930 crop, compared with $1.05 for the 304,500,000 bushels harvested in 1929. The value of the principal field crops was estimated at $631,600,000 in 1930 compared with nearly $949,000,000 in 1929. The crops of 1930 were grown on an area of 62,215,000 acres compared with 61,207,000 acres in 1929.

Iron and Steel.—The primary iron and steel industry, being a major factor in the expansion of railway and industrial equipment, is an excellent indicator of the trend of general business. Some authorities go so far as to say that the wide fluctuation in the industries of this character is the main cause of the economic cycle, and there is apparent justification for the claim that the wide variation in the operations of the industries concerned with the supply and replacement of industrial equipment is an important element in the alternation of prosperity and depression. Production of pig iron in 1930 at 747,448 long tons was 30·8 p.c. under the record for the industry, which was established at 1,080,000 tons in the preceding year. Production of steel during the year at 1,012,000 tons was 26·6 p.c. less than the 1,378,000 tons made in the record year of 1929. In appraising the meaning of this curtailment, it should be remembered that in 1929 the industry was more actively employed than in any other peace-time year.

Hydro-Electric Power.—The marked development of the hydro-electric resources of the Dominion in progress in the post-war period, was continued throughout 1930, despite the major depression in other lines. New installations brought into operation during 1930 amounted to 397,850 horse-power, bringing the installation in Canada to a total of 6,125,000 horse-power at the end of the year. Construction was active on many undertakings throughout the country, several of which were of outstanding importance, and it was anticipated that more than 1,500,000 h.p. would be added to the total in the next two or three years. New construction involved an expenditure of $80,000,000 in 1930, and a further expenditure of $300,000,000 was forecast for the next two or three years.

The larger central electric stations reported a total output of 17,856,122,000 k.w.h. compared with 17,632,876,000 k.w.h. in the preceding year. The depression in general industry was thus reflected in a declining *rate* of increase in the output of electric energy rather than in an absolute decline. The long-term expansion in the power industry is so rapid that a cyclical recession in the Dominion, such as that in evidence during 1930, did not entirely counterbalance the normal growth.

Mineral Production.—Reflecting the drop in metal prices and the reduced output of coal, asbestos, gypsum and structural materials, the net value of mineral production at $276,865,000 was considerably below the record of $310,850,000 established in 1929. More copper and zinc were produced than in any previous year in the history of Canada, but the average prices for these metals were so reduced that the total values were lower than in 1929. New high records in the quantity and value of gold tended to offset the declines in other lines. A considerable number of mining properties of proven value were, at the beginning of 1930, undergoing development with expectations of commencing or increasing production during the year. In some cases these plans were not realized owing to the fall in market values, particularly of copper, lead, zinc and silver.

Construction.—The decline in construction during 1930 coincided with the recurrence of a major depression. The value of contracts awarded during the year was nearly $457,000,000 compared with $576,700,000 in 1929, a decrease of 20·7 p.c. The value of building permits issued by 61 cities was $166,400,000 compared with $234,900,000 in the preceding year, a decline of 29·2 p.c.

Automobile Production.—The fluctuations in the automobile industry are known to correspond in general with the ups and downs of construction. Prosperous conditions and a high level of purchasing power lead to expansion in both lines, while the lack of effective demand occurring in times of depression results in drastic curtailment. Production of automobiles during 1930 at 154,192 cars and trucks was 41·3 p.c. under the record of 262,625 cars in the preceding year.

Pulp and Paper.—The rapid expansion of the last five years had resulted in obvious over-capacity, and marketing conditions were further complicated by the decline in newspaper advertising caused by business depression. The total production of newsprint was 2,499,631 tons in 1930, a decline of 8·4 p.c. from the level of 1929. In the ten years from 1920 to 1930, the productive capacity of newsprint mills in Canada increased from 2,630 tons per day to 12,105 tons per day, a development made possible only by reason of Canada's immense resources in forests and water-powers.

Railway Transportation.—The chief transportation agencies in Canada—the two great railway systems—were inevitably affected by the sharp decline in production of the principal crops in the preceding year, and the consequent reduction in the volume of commodities transported at fixed rates. The loadings of revenue freight on all Canadian railways during the year were 3,144,500 cars, a decline of 10·7 p.c. from the total of 3,524,000 cars loaded in 1929. The decline of 379,530 cars in 1930 as compared with 1929 was accounted for as follows: grain and grain products 38,526, live stock 24,204, coal 44,845, lumber 50,080, pulpwood 6,263, pulp and paper 21,367, other forest products 31,883, ore 20,366, merchandise less than carload 46,888, and miscellaneous 100,025. The only enumerated item showing an increase was coke, of which 27,627 cars were loaded in 1930 as compared with 22,710 cars in 1929.

Freight earnings are universally recognized as supplying the great bulk of the revenue of Canadian railways, and a falling off here necessarily has a serious effect on earnings, while passenger earnings have in recent years shown a tendency to decline as a result of the competition of the motor car. Gross revenues of the more important railways amounted to $450,400,000, which was $78,800,000 or nearly 15 p.c. less than in 1929. Net revenues amounted to $72,900,000 compared with $99,900,000 in the preceding year. Despite the recession in operations, the principal railways showed confidence in the future by extensive preparations in perfecting their facilities for efficient transportation and by the betterment of existing lines for the heavier traffic expected during the continued development of the Dominion.

External Trade.—The external trade of Canada was affected in 1930, so far as exports go, by the smaller crops of 1929 and 1930 and the lower prices obtained for them as well as by the general trade depression. Imports were also in smaller value corresponding in trend with the decline in exports and in wholesale prices. Imports in the calendar year 1930 were valued at $1,008,500,000 compared with $1,299,000,000 in 1929. Exports were $905,400,000 compared with $1,208,000,000 in 1929. The balance of trade or excess of imports over exports was consequently $103,100,000 in 1930 compared with $90,700,000 in the preceding year.

Currency and Banking.—As a period of depression draws to a close, finance is normally one of the phases finding itself in a greatly strengthened position. The deflation of stock and commodity prices and a reduction in operations tend to release liquid capital, improving the fundamental position of the banks. Current loans showed a decline of $254,000,000 in 1930, while the recession in notice deposits was only $8,000,000. The surplus of notice deposits over current loans was $277,000,000 at the end of 1930 compared with $32,000,000 at the end of 1929. During 1930 the gold held against Dominion notes increased from $60,400,000 to $93,800,000, while the circulation of Dominion notes declined from $203,900,000 to $175,400,000.

As the interest rate on current and call loans in Canada is fairly well stabilized, the trend of interest rates may be determined by the prices of high grade bonds. The decline in long-term interest rates was one of the most constructive developments in 1930. The rise in bond yields was the best indication of the tight credit conditions in evidence during the greater part of 1929. The high call rates on the New York market had attracted liquid resources from many quarters. Upon the decline of the rate in September and October, 1929, a large proportion of these loans was withdrawn. In December, 1930, the average yield on four Dominion Government bonds was 4·55 p.c. The same bonds yielded an average of 4·91 p.c. in the same month of 1929. The yield on Ontario Government bonds in December, 1930 averaged 4·50 p.c. compared with 4·90 p.c. in December 1929. With current rates in external money markets at the lowest level in years, there were reasons to believe that this factor would ultimately be a powerful stimulus to the recovery from the depression.

Common Stocks.—The close interconnection of economic phenomena is shown by the decline in common stock prices during 1930. The curtailment of industrial operations and the severe decline in wholesale prices reacted against the revenue prospects of Canadian corporations. The deflation of speculative values during the course of the year was drastic. The trend from January to April was upward, but the failure of business conditions to show improvement during the first half of the year led to further liquidation, temporarily culminating in June. The market strengthened to reach an intermediate peak about the middle of September. A new low point was touched in December after severe liquidation prompted by reactionary factors at home and abroad. The general index number was 103·1 in December, compared with 156·5 in the same month of 1929, a decline of 34 p.c. in twelve months; industrials declined 43 p.c., while utilities were down 20·4 p.c.

Death of H.R.H. the Princess Royal.—H.R.H. Princess Louise Victoria Alexandra Dagmar (The Princess Royal) died in London on Jan. 4, 1931. Born in 1867, eldest daughter of H. M. King Edward VII and Queen Alexandra (when Prince and Princess of Wales), she married the Earl of Fife (who later became the Duke of Fife) in 1889 and was granted the title of "Princess Royal" in 1905.

The Governor General.—In December it was announced that the Governor General, Viscount Willingdon, had been appointed as Viceroy of India. Their Excellencies left Ottawa on Jan. 14 and sailed from Canada on Jan. 16. On Apr. 4, 1931 the new Governor General, the Earl of Bessborough, arrived at Halifax and was sworn in. In the interim, the Government was administered (in the absence on leave of the Rt. Hon. F. A. Anglin, P.C., Chief Justice) by the Rt. Hon. L. P. Duff, P.C., the Senior Judge of the Supreme Court of Canada.

Dominion General Elections.—The dissolution of the Sixteenth Parliament was proclaimed on May 30, 1930, nomination days being July 14 and July 21, the polling day July 28 and writs being returnable on Aug. 18, 1930. The election was won by the Conservatives and the Hon. R. B. Bennett was requested to form a Cabinet (see p. 91 for the list of the present Cabinet). The standing of the parties was Conservatives 136, Liberals 89, other groups 20. A list of the members of the Seventeenth Parliament will be found at pp. 100-104 of this volume. At the by-elections following the appointment of the Cabinet, all the Ministers were elected by acclamation, while the Hon. H. H. Stevens was also acclaimed in the constituency of Kootenay East, where Mr. M. D. McLean had resigned. On Sept. 2, the Hon. E. N. Rhodes was elected by acclamation in Richmond-West Cape Breton, Mr. J. A. MacDonald having accepted an office of emolument under the Crown.

Provincial General Elections.—In Alberta a general election was held on June 19 and resulted in the return of the U.F.A. Government of the Hon. J. E. Brownlee.

In New Brunswick a general election took place on June 19, the Conservative Government of the Hon. J. B. M. Baxter being returned to power.

Imperial Conference of 1930.—From Oct. 1 to Nov. 15, 1930, representatives of the Empire met in London for the Imperial Conference of 1930, at which Canada was represented by the Rt. Hon. R. B. Bennett, Prime Minister and Secretary of State for External Affairs; the Hon. Hugh Guthrie, Minister of

Justice; the Hon. H. H. Stevens, Minister of Trade and Commerce; and the Hon. M. Dupré, Solicitor General. The work of the conference was divided into economic and constitutional sections and was carried on during a time of world-wide trade depression when the general atmosphere seemed propitious for the encouragement of inter-Empire trade. The Prime Minister of Canada, the Right Hon. R. B. Bennett, in the early stages of the conference, enunciated his policy of reciprocal tariff preferences within the Empire and received the support of other Dominion Prime Ministers. After much discussion, the Government of the United Kingdom declined to consider the imposition of tariffs on foodstuffs entering Great Britain and Northern Ireland, although bulk buying, including a wheat quota purchasing system, was suggested as a compromise. This met with a qualified reception and arrangements were made for the 1931 conference to meet in Ottawa, an invitation along these lines having been extended by the Prime Minister of Canada.[1]

Among the most important constitutional and economic results of the 1930 Conference were:—(1) Britain agreed to maintain existing preferences given Dominion products for three years; (2) Trade proposals are to be considered in Ottawa in 1931; (3) A voluntary Empire judicial tribunal is to be created; (4) The Colonial Laws Validity Act is to be repealed; (5) Dominions may act through British ambassadors abroad; (6) The King appoints Governors General through the respective Dominion Governments.

Return of Natural Resources to the Western Provinces.—Agreements for the return of their natural resources to the four western provinces were signed on the following dates, Manitoba and Alberta, Dec. 14, 1929; British Columbia, Feb. 20, 1930 and Saskatchewan, Mar. 20, 1930. Some features of the agreements were the retention of and in some cases an increase in the subsidies formerly paid to the provinces, the retention of the National Parks and the continuation of the administration of Indian Reserves by the Dominion.

International Relations.—*The London Naval Treaty of 1930*[2].—The London Naval Treaty resulted from a Conference of the chief world naval powers called together by the Prime Minister of Great Britain, the Rt. Hon. Ramsay Macdonald, on Jan. 21, 1930. The Treaty was signed on Apr. 22, 1930, by the plenipotentiaries of the British Commonwealth, the United States, France, Italy and Japan—the five leading naval powers of the world. The opening speech of the Conference, made by His Majesty King George V, was broadcast throughout the world and clearly outlined the purposes of the Conference as: the limitation of naval armaments, the paving of the way for a more comprehensive general disarmament conference at a later date, and the furtherance of the Briand-Kellogg Pact for the outlawry of war. One result was a definite Three-Power Pact under Part III of the Treaty, between the British Commonwealth of Nations, the United States and Japan to limit naval construction, in relation to cruiser, destroyer and submarine categories not included in the provisions of the Treaty of Washington of 1922. Nevertheless, Parts I and II of the Treaty impose definite obligations on France and Italy. Again, Article 24, Part V, provides the basis of the further negotiations between Great Britain, France and Italy, which began in March, 1931 and are still in progress (May, 1931). The present Treaty is effective from its ratification by each of the parties concerned until Dec. 31, 1936. It was signed by the Hon. Philippe Roy, Canadian Minister at Paris, on behalf of Canada, but Canada was represented at the Conference by the Hon. J. L. Ralston, Minister of National Defence in the Mackenzie King Administration.

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[1] The 1931 Conference, which, according to arrangement, was to meet in Ottawa has recently been postponed on account of the inability of certain Dominion Prime Ministers to be present.

[2] For the text of this Treaty, see p. V of the Introduction to the Statutes of 1930.

Canada and the League of Nations.—The work of the Canadian Advisory Office at Geneva, as the established channel of communication between the Government of Canada and the League of Nations, continued to grow with the responsibilities involved in the place in the League's organization which has been attained by the Dominion. During the year 1930 Canada's tenure of a non-permanent seat on the Council of the League came to an end; at the Fifty-eighth and Fifty-ninth Sessions of the Council, Canada was represented by Senator Dandurand, and at the Sixtieth Session in September by the Rt. Hon. Sir Robert Borden. At the meetings of the Governing Body of the International Labour Office, of which Canada is a permanent member, Dr. Riddell, the Canadian Advisory Officer, represented the Minister of Labour. Dr. Riddell also attended, as an observer, the Conferences for Concerted Economic Action held under the auspices of the League, at which Canada was not officially represented.

General.—A feature of the year 1930 was the visit to Japan of the delegation of the Canadian Chamber of Commerce. In May, 1930, a revising Convention for the Protection and Preservation of the Sockeye Salmon Fisheries in the Fraser River System was signed between Canada and the United States of America.

In August, 1930, the Norwegian Government formally recognized Canada's title to the Sverdrup group of islands in the Arctic Ocean.

During April and May, 1931, Canada was visited by H.I.H. Prince Takamatsu, on his return from England, where he had represented H.I.M. the Emperor of Japan on a mission to thank H.M. King George for the Order of the Garter, the insignia of which had previously been conveyed to Japan by H.R.H. the Duke of York.

Obituary, 1930.—(See also pp. 1064-5 of the 1930 Year Book.) July 16, Hon. J. E. Caron, M.L.C., former Quebec Minister. July 19, David Bonis, St. Marys, Ont., M.L.A. for Perth South. July 24, Geo. Smith, K.C., former County Judge for Essex, Ont. July 25, Lieut.-Col. Norman Lang, former M.P. for Humboldt, Sask. Aug. 1, Capt. J. J. R. H. Fleming, Ottawa, of the R.M.C. Staff. Aug. 4, Dr. J. A. Anderson, Toronto, M.L.A. for South Lanark. Aug. 7, Major J. E. Gobeil, M.C., Ottawa, Superintendent of Dominion Government Telegraphs. Aug. 11, E. A. Panet, Assistant Clerk of Legislative Council of Quebec and former M.L.A. Aug. 15, Hon. W. F. Vilas, Cowansville, Que., M.L.C. for district of Wellington, Que. Aug. 18, W. B. Williamson, K.C., Toronto, Ont., law clerk to Ontario Legislature for private and municipal bills. Aug. 27, Matthew Snow, Winnipeg, Man., Grain Commissioner. Sept. 25, Jas. B. Kennedy, former M.P. for New Westminster, B.C. Oct. 1, Col. C. Y. Weaver, D.S.O., V.D., M.L.A. for Edmonton, Alberta. Oct. 13, Col. Geo. S. Rennie, C.M.G., M.P. for Hamilton East. Oct. 19, Peter Cameron, Dunwick, Ont., former M.L.A. Oct. 22, Wm. Lagidmodière, former M.L.A. for Lorette, Man. Oct. 28, Walter Todd, Chief of Committees and Private Bills Branch, House of Commons. Nov. 3, Robert Douglas, Ottawa, Ont., Secretary of the Geographic Board of Canada. Nov. 9, Hon. W. A. Charlton, P.C., M.P. for Norfolk, Ont., from 1911-21 and former

Speaker of the Legislative Assembly of Ontario. G. L. Dickinson, former M.P. for Carleton, Ont. Nov. 10, Hon. J. G. Turriff, Senator for Assiniboia, Sask. Nov. 14, Hon. A. Turgeon, Speaker of the Legislative Council of Quebec. Nov. 16, Hon. F. T. Smye, Hamilton, Ont., Minister without portfolio in the Ontario Government. Nov. 20, Hon. J. L. Perron, K.C., Montreal, Minister of Agriculture in Quebec Government. Nov. 26, R. H. Grant, Hazeldean, Ont., former Minister of Education in the Ontario Government. **1931.**—Jan. 4, A. Bettez, M.P. for Three Rivers-St. Maurice. Jan. 5, Geo. B. Fowler, at Ann Arbor, Mich., Chief Preventive Officer, Dept. of National Revenue. Jan. 6, Lieut.-Col. F. McKelvey Bell, M.D., New York, late Deputy Director of Medical Services. Jan. 7, Carlton J. Oliver, M.L.A., Mansonville, Que., W. S. Carter, LL.D., D.C.L., Fredericton, N.B., Chief Superintendent of Education, N.B. Jan. 13, J. R. Lafond, Hull, Que., ex-M.L.A. for Hull County. Jan. 14, Adam Shortt, LL.D., C.M.G., Chairman of Dominion Board of Historical Publications. Jan. 17, Robert Andrew Kent, former Chief Clerk of Committees of the Ontario Legislature. Dr. T. A. Wilson, Chief Indian Medical Officer for B.C. Jan. 22, Hon. Wm. Smith, P.C., Columbus, Ont., ex-M.P. for Ontario South. Jan. 31, Joseph E. Armstrong, Sarnia, Ont., ex-M.P. for East Lambton. Feb. 1, Edward Robert Cameron, M.A., K.C., LL.D., former registrar of the Supreme Court of Canada. Feb. 2, E. H. St. Denis, Ottawa, Ont., late Assistant Dominion Statistician. Feb. 4, Hon. H. B. McGiverin, P.C., late Minister without Portfolio. Feb. 9, Hon. T. A. Low, P.C., Renfrew, Ont., late Minister of Trade and Commerce. Feb. 10, Chas. H. Masters, K.C., Ottawa, Ont., late Chief Reporter of the Supreme Court of Canada. Feb. 15, Hon. Louis Lavergne, Arthabaska, Que., former Senator. Feb. 23, Judge E. N. Lewis, Toronto, Ont., County Judge of Huron Co. and former M.P. for Huron East. Mar. 4, F. W. Cowan, Chief of the Preventive Service, Dept. of National Revenue, Ottawa. Mar. 7, A. H. Whitcher, F.R.G.S., Ottawa, Ont., late Secretary of Geographic Board of Canada. Mar. 27, William Simpson Walker, K.C., Montreal, former Registrar of the Exchequer Court of Canada, Quebec Admiralty District. Apr. 11, Senator P. E. Lessard, St. Paul, Alberta. Apr. 20, William Edward O'Meara, Ottawa, Ont., Secretary of Federal District Commission. May 1, Hon. George Green Foster, K.C., Montreal, Senator for Alma, Que. May 13, Hon. John S. Martin, Port Dover, Ont., late Minister of Agriculture for Ontario. May 30, Hon. R. E. Harris, K.C., Annapolis Royal, N.S., Chief Justice of Nova Scotia. June 3, Mr. Justice Victor Allard, Montreal, Que., Judge of the Court of Appeal.

Section 4.—Canadian Books of 1930.[1]

(A)—Books Published in English.[2]

Archer, S. A. A Heroine of the North: Memoirs of Charlotte Selina Bompas, 1830-1917, Wife of the First Bishop of Selkirk, Yukon. Society for Promoting Christian Knowledge, London.

Armstrong, G. H. The Origin and Meaning of Place Names in Canada. Macmillan, Toronto.

Aston, Maj.-Gen. Sir G. Foch: A Biography. Macmillan Company, Toronto.

Beasley, N. Freighters of Fortune: The Story of the Great Lakes. Harper, New York.

Burpee, L. J. The Discovery of Canada. Graphic, Ottawa.

Burt, A. L. The Romance of the Prairie Provinces. Gage, Toronto.

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[1] A few books published late in 1929 but not reviewed until 1930 are included. Works of fiction are not usually included.

[2] Selected from a list compiled by Miss G. S. Lewis, Librarian, Dominion Bureau of Statistics.

Call, F. O. The Spell of Acadia. Page, Boston.

Carruthers, Sir Joseph. Captain James Cook, R.N. One Hundred and Fifty Years After. Murray, London.

Churchward, J. The Lost Continent of Mu. W. E. Rudge, New York.

Concannon, Mrs. Thomas, White Horsemen: The Story of the Jesuit Martyrs of North America. Sands, London.

Cooper, Courtney R. Go North, Young Man. Little, Boston.

Cory, Harper. Modern Canada. Heinemann, London.

Davies, Blodwen. Saguenay ("Saginawa") the River of Deep Waters. McClelland, Toronto.

Doughty, A. G. Under the Lily and the Rose. Modern Press, Ottawa. (2 Vols.)

Drew, G. Canada's Fighting Airmen. MacLean, Toronto.

Fairchild, David. Exploring for Plants. Macmillan, Toronto.

Grayson, E. V. K. Picture Appreciation. J. M. Dent, Toronto.

Grove, F. P. It Needs to be Said. Macmillan, Toronto.

Gunn, J. J. Echoes of the Red: A Reprint of some of the Early Writings of the Author Depicting Pioneer Days in the Red River Settlements. Macmillan, Toronto.

Hahn, J. E. The Intelligence Service Within the Canadian Corps, 1914-1918. Historical *résumé* by Gen. Sir Arthur Currie, foreword by Maj.-Gen. J. H. MacBrien. Macmillan, Toronto.

Hood, R. A. By Shore and Trail in Stanley Park. McClelland and Stewart, Toronto.

Hutton, S. K. An Eskimo Village. Society for Promoting Christian Knowledge. Macmillan, Toronto.

Innis, H. A. The Fur Trade in Canada. Yale Univ. Press, New Haven.

Jefferys, C. W. Dramatic Episodes in Canada's Story. Hunter Rose, Toronto.

Jones, J. E. More Familiar Wild Flowers, Mushrooms, Ferns and Grasses. National Boys' Work Board, Toronto.

Kuczynski, R. R. Birth Registration and Birth Statistics in Canada. Brookings Inst., Washington.

Larsen, Thomas and Walker, F. C. Pronunciation: A Practical Guide to Spoken English in Canada and the United States. Oxford Univ., Toronto.

Laut, A. C. Marquette. (Ryerson Can. Hist. Readers, ed. by Lorne Pierce.) Ryerson Press, Toronto.

Leacock, S. Economic Prosperity in the British Empire. Constable, London.

Lee, Bourke. Death Valley. Macmillan, Toronto.

Lewis, H. F. Natural History of the Double-crested Cormorant. Rou-Mi-Lou, Ottawa.

Loudon, W. J. A Canadian Geologist. Macmillan, Toronto. (Biography of J. B. Tyrrell.)

MacInnes, C. M. In the Shadow of the Rockies. Rivingstons, London.

Mackay, I. E. Indian Nights. McClelland, Toronto.

Mackinnon, I. F. Settlements and Churches in Nova Scotia, 1746-76. Walker Press, Montreal.

MacLean, J. K. and Fraser, Chelsea. Heroes of the Farthest North and Farthest South. Crowell, New York.

Munday, Luta. A Mounty's Wife. Sheldon Press, London.

Munro, Robert (Lord Alness). Looking Backward. Thomas Nelson, Toronto.

Niven, Frederick. Canada West. Dent, Toronto.

Pound, Arthur and Day, R. E. Johnson of the Mohawks; a biography of Sir Wm. Johnson, Irish Immigrant, Mohawk War Chief, American Soldier, Empire Builder, Macmillan, Toronto.

Pyke, Magnus. " Go West, Young Man, Go West." Graphic, Ottawa.

Roberts, Leslie. These Be Your Gods. Musson, Toronto.

Rose, J. H. and others, ed. The Cambridge History of the British Empire. Vol. 6, Canada and Newfoundland. Macmillan, Toronto.

Sandiford, Peter. Educational Psychology. Longmans, Toronto.

Shaw, F. H. Famous Shipwrecks. Irwin and Gordon, Toronto.

Skinner, C. L. Songs of the Coast Dwellers. McClelland, Toronto.

Strong, M. K. Public Welfare Administration in Canada. Univ. of Chicago Press, Chicago.

Swanson, W. W. and Armstrong, P. C. Wheat. Macmillan, Toronto.

Webster, J. C. The Forts of Chignecto: A Study of the Eighteenth Century Conflict between France and Great Britain in Acadia. Rapid-Grip Ltd., Saint John.

Westbury, G. H. Misadventures of a Working Hobo in Canada. Routledge, London.

Willison, Sir John. Sir George Parkin, a Biography. Macmillan, Toronto.

Winter, Brig.-General C. F. Lieut.-General The Honourable Sir Sam Hughes. Macmillan, Toronto (1931).

(B)—Books Published in French.[1]

Archambault, J. P. Esquisses sociales. Action canadienne-française, Montreal.

Beauchesne, Arthur. Ecrivains d'autrefois. Mortimer, Ottawa.

Bourassa, Napoléon. Lettres d'un artiste canadien. Brouwer et Cie, Bruges, 1929.

Chamberland, Michel. Histoire de Montebello. Action canadienne-française, Montreal.

Choquette, C.-P. Histoire de la ville de St-Hyacinthe. La Tribune, St-Hyacinthe, Que.

Grignon, Edmond. En guettant les ours. Garand, Montreal.

Groulx, Lionel. La Naissance d'une race. Action canadienne-française, Montreal.

Hanotaux, Gabriel and Martineau, Alfred. Histoire des colonies françaises et de l'expansion de la France dans le monde. Librairie Plon, Paris, 1929.

Hébert, Maurice. De livres en livres: Essais de critique littéraire. Carrier, Montreal.

LaRoncière, Charles de. Une épopée Canadienne. La Renaissance du Livre, Paris, 1930.

Maurault, Olivier. Marges d'histoire, III: Saint Sulpice. Action canadienne-française, 1930.

Marion, Séraphin. En feuilletant nos écrivains. Action canadienne-française, Montreal.

Ouimet, Raphael. Biographies canadienne-françaises. Rolland, Montreal.

Robitaille, Georges. Etudes sur Garneau. Action canadienne-française, Montreal, 1929.

Roy, Antoine. Les lettres, les sciences et les arts au Canada. Jouve & Cie, Paris.

Roy, P.-G. La ville de Québec sous le régime français. L'Eclaireur, Beauceville, Que.

Vaillancourt, Emile. La conquête du Canada par les Normands: Biographie de la première génération normande du Canada. G. Ducharme, Montreal.

Vignols, Léon. La mise en valeur du Canada à l'époque française. Rivière, Paris.

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[1] This list has been prepared by Omer Chaput, Chief Translator, Dominion Bureau of Statistics.

Section 5.—Extracts from the Canada Gazette—Official Appointments, Commissions, etc.

NOTE.—This list is in continuance of that at pp. 1067-70 of the 1930 Year Book.

Lieutenant-Governors, 1930.—Nov. 19, Frank Stanfield, Esq., of Truro, N.S.: to be Lieutenant-Governor of the said province of Nova Scotia, succeeding the Hon. J. C. Tory. Charles Dalton, Esq., of Tignish, P.E.I.: to be Lieutenant-Governor of the said province of Prince Edward Island, succeeding the Honourable F. R. Heartz. **1931.**—Mar. 31, Lieut.-Col. Hugh Edwin Munroe, M.D., F.A.C.S., O.B.E., of Saskatoon, Sask.: to be the Lieutenant-Governor in and over the province of Saskatchewan. Apr. 24, Hon. William Legh Walsh, of Calgary, in the province of Alberta: to be Lieutenant-Governor of the said province of Alberta, succeeding the Honourable William Egbert.

Imperial Privy Councillors, 1930.—Oct. 27, The Honourable Richard Bedford Bennett (Prime Minister of Canada). **1931.**—Jan. 1, The Honourable Sir George Halsey Perley, K.C.M.G., Minister without Portfolio, Dominion of Canada. Mar. 20, The Right Honourable Vere Brabazon, Earl of Bessborough, G.C.M.G., Governor General Designate of the Dominion of Canada.

Privy Councillors, 1931.—Jan. 14, The Honourable George Howard Ferguson, K.C., B.A., LL.D., the High Commissioner for Canada in London, England: to be a Member of His Majesty's Privy Council for Canada.

Diplomatic Representative, 1931.—Mar. 7, Major W. D. Herridge, K.C., D.S.O., M.C., Envoy Extraordinary and Minister Plenipotentiary to the United States of America.

New Members of the House of Commons, Seventeenth Parliament, 1930.—A list of the members elected at the seventeenth general election, July 28, 1930, will be found at pp. 100-104 of this volume. Reference to the by-elections consequent upon the formation of the fifteenth Dominion Ministry is made at p. 1109 of this chapter.

Commissioners, 1930.—June 11, Duncan Angus McArthur, Professor of History, Queen's University; Frank McKenzie Ross, of the city of Montreal, in the province of Quebec, gentleman; Alfred Burpee Balcom, of the town of Wolfville, in the province of Nova Scotia, Professor of Economics, Acadia University; and James Joseph Johnston, of the city of Charlottetown, in the province of Prince Edward Island, barrister-at-law: to be Commissioners under Part I of the Inquiries Act to inquire into the feasibility, probable cost of construction, economic and national advantages to be gained by the construction of a ship canal across the isthmus of Chignecto to connect the waters of the bay of Fundy with those of the gulf of St. Lawrence; the said Commissioners to investigate the proposed canal in connection with all phases of navigation, development of water powers, expansion of trade, etc. Sept. 5, J. C. Gagne, L. P. Girard and R. Kane, of the city of Chicoutimi: to be Commissioners of the Harbour of Chicoutimi; the first named to be chairman. Lt.-Col. John S. O'Meara and Pierre Bertrand, of the city of Quebec and Dr. Joseph LeBlond, of the city of Lévis: to be members of the Quebec Harbour Commission; the first named to be chairman. Victor Abran, Jean Baptiste Loranger and John T. Tebbutt, of the city of Three Rivers, Quebec: to be Commissioners for the Harbour of Three Rivers; the first named to be chairman. Joseph H. Rainville, K.C., John Caverhill Newman, Esq., and Lt.-Col. H. J. Trihey, K.C., of the city of Montreal: to be members of the Harbour Commission of Montreal; the first named to be chairman. Sept. 6, His Honour James Gamble Wallace, Judge of the County Court of the County of Oxford, province of Ontario: to be a Commissioner under the provisions of the Naturalization Act, chapter 138 of the Revised Statutes of Canada and of Part I of the Inquiries Act, c. 99, R.S. 1927, to inquire into and report upon all cases referred to him by the Secretary of State of Canada in which may be considered the revocation of Naturalization Certificates. Errol Malcolm McDougall, Esq., K.C., of the city of Montreal, Que.: to be a Commissioner to consider claims outstanding for damages resulting from Illegal Warfare for the purpose of determining whether they fall within the first Annex to Section 1 of Part VIII of the Treaty of Peace with Germany and to report on the same. Sept. 20, Harold C. Schofield, Esq., Frank T. Lewis, Esq., and Thomas Nagle, Esq., of the city of Saint John, N.B.: to be Commissioners for the Harbour of Saint John; the first named to be chairman. Sept. 23, Col. Earle Caleb Phinney, barrister-at-law, Joseph Linton Hetherington, merchant, and Frank Merchant, manufacturers' agent: to be members of the Halifax Harbour Commission; the first named to be chairman. Sam McClay, Esq., James B. Thompson, Esq., and R. B. Williams, Esq., of the city of Vancouver, B.C.: to be members of the Vancouver Harbour Commission; the first named to be chairman. Peter White, Esq., K.C., of the city of Toronto, Ont.: to be a Commissioner under section 11 of the Combines Investigation Act, to investigate the business of certain Motion Picture Distributors and Exhibitors and Associations which are alleged to be a combine, and the business of any other person who has been or is believed to have been a member of the said alleged combine or a party or privy thereto. Oct. 22, V. Marley Wilson, K.C., of Napanee, Ont.: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate such political partizanship and other charges against employees of the Department of Pensions and National Health in the city of Kingston, Ont., as may be referred to him by the Minister of Pensions and National Health. Oct. 24, The Hon. John Fosbery Orde, a Justice of the Appellate Division of the Supreme Court of Ontario: to conduct an inquiry under Part I of the Inquiries Act, c. 99, R.S.C. 1927, into and concerning the administration of Halifax Harbour, province of Nova Scotia, by the former Harbour Commissioners, Messrs. Peter Jack, John Murphy and Charles W. Ackhurst, all of the city of Halifax, and into all matters pertaining to such administration. George Wilson, Esq., of Saskatoon, Sask.: to be a Commissioner, under Part I of the Inquiries Act, c. 99, R.S.C. 1927, to investigate charges of political partizanship against government employees in the province of Saskatchewan. Oct. 28, Lieut.-Col. Henry Judson Coghill, Sergeant-in-Arms of the House of Commons: to be a Commissioner to administer the Oath of Allegiance to members elected to the House of Commons. Nov. 1, R. S. McLellan, Esq., K.C., Sydney, N.S.: to be a Commissioner, under the provisions of Part I of the Inquiries Act, c. 99, R.S.C. 1927, to investigate charges of political partizanship against employees of the Government of Canada residing on the island of Cape Breton. Frederick W. Bissett, Esq., Junior, Halifax, N.S., barrister-at-law: to be a Commissioner under the provisions of Part I of the Inquiries Act, c. 99, R.S.C. 1927, to investigate charges of political partizanship against employees of the Government of Canada residing in the mainland of the province of Nova Scotia. H. Fanning Gosselin, Esq., K.C., of the city of Quebec, Que.: to be a Commissioner, under the provisions of Part I of the Inquiries Act, c. 99, R.S.C. 1927, to investigate such charges of political partizanship against employees of the Post Office Department in the District of Quebec as may be referred to him by the Postmaster General. Nov. 6, H. W. Sangster, Esq., K.C., of Windsor, N.S.: to be a Commissioner, pursuant to Part I of the Inquiries Act, c. 99, R.S.C. 1927, to investigate the administration of Camp Hill Hospital, Halifax; the conduct therein of employees of the Department of Pensions and National Health, and any charges of political partizanship that may be referred to him by the Minister of Pensions and National Health. Nov. 8, H. Lester Smith, Esq., barrister, of Riverside, Albert County, N.B.: to be a Commissioner pursuant to Part I of the Inquiries Act to investigate such charges of political partizanship against employees of the Dominion Government as may be referred to him. Antoine Patrice Noel McLaughlin, barrister, of Campbellton, N.B.: to be a Commissioner pursuant to Part I of the Inquiries Act to investigate such charges of political partizanship against employees of the Dominion Government as may be referred to him. Dec. 2, Major Theodore Paquet, of the city of Quebec, Que.: to be a Commissioner to investigate charges of political partizanship against government employees in the province of Quebec. Bruno Nantel, Jr., barrister, of the city of Montreal, Que.: Commissioner, to investigate charges of political partizanship against government employees in the province of Quebec. Alphonse Garon, barrister, of the town of Rimouski, Que.: Commissioner, to investigate charges of political partizanship against government employees in the province of Quebec. Dec. 6, J. B. Bosquet, Esq., barrister, of St. Hyacinthe, Que.: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate such charges of political partizanship against employees of the Post Office Department in the District of St. Hyacinthe, province of Quebec, as may be referred to him by the Postmaster General. Henri Robert Coté, Esq., barrister, of the city of Quebec: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate such charges of political partizanship against employees of the Post Office Department in the Quebec District, province of Quebec, as may be referred to him by the Postmaster General. Joseph Alphonse Beaulieu, Esq., K.C., barrister, 159 Craig Street West, Montreal: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate such charges of political partizanship against Government employees in the province of Quebec as may be referred to him. Leopold Nantel, K.C., barrister, of St. Jerome, Que.: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate such charges of political partizanship against Government employees in the province of Quebec as may be referred to him. Joseph Ovide Courchesne, Notary Public, city of Nicolet: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate such charges of political partizanship against Government employees as may be referred to him by the Postmaster General. Joseph Antonio Drolet, barrister, Lac Megantic, Que.: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate such charges of political partizanship against employees of the Government in the province of Quebec as may be referred to him. Dec. 12, Leon Methot, Esq., barrister, of Three Rivers: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate such charges of political partizanship against employees of the Dominion Government as may be referred to him. Dec. 13, Alfred Powell, Esq,. notary, of St. Ferdinand, Que.: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate such charges of political partizanship against Dominion Government employees in the province of Quebec as may be referred to him. Fred Babe, K.C., of the city of Fort William, Ont.: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate such charges of political partizanship against Government employees in the province of Ontario as may be referred to him. Louis Côté, Esq., Chief Engineer of the Department of Marine; C. E. Brydone-Jack, Esq., of the Department of Public Works and C. E. Cartwright, Esq.: to be a Commission, under and pursuant to Part I of the Inquiries Act, to inquire into and report on all matters relative to means of communication for the transportation of persons, vehicles, goods and merchandise between Vancouver and North Vancouver at the Second Narrows, Burrard Inlet, B.C., and to report as to requirements to provide for the protection of navigation and meet the general public interests: Louis E. Côté, to be Chairman of the Commission. Dec. 20, Percy W. Abbott, K.C., of Edmonton, Alta.: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate as to the correctness or otherwise of certain charges made against Mr. N. Curtis, employed as stock yard agent in the Dominion Department of Agriculture at Edmonton. Ernest H. Strong, Esq., of Summerside, P.E.I.: to be a Commissioner pursuant to Part I of the Inquiries Act, to investigate such charges of political partizanship against employees of the Dominion Government as may be referred to him. William Noblett, Esq., of Sydney, N.S., barrister-at-law: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate charges of political partizanship against employees of the Dominion Government residing on the island of Cape Breton. Dec. 23, Cyril Richard Coughlan, of Bridgewater, N.S., barrister-at-law: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate charges of political partizanship against Dominion Government employees residing in the mainland portion of Nova Scotia. Dec. 24, Edgar Garfield Trick, of Winnipeg, Man., barrister-at-law: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate charges of political partizanship against Government employees in the province of Manitoba. Dec. 31, John Thomas McCourt, of the city of Toronto, Ont., Principal Postal Clerk of the Secretarial Branch of the Toronto Post Office: to be a Commissioner to administer the oath of allegiance and the oath of office prescribed by the Civil Service Act. **1931.**—Jan. 7, Sherwood Herchmer, of Fernie, B.C., barrister-at-law: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate charges of political partizanship against Government employees in the province of British Columbia. Jan. 14, Alexander Taché, Esq., of Hull, Que., barrister-at-law: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate charges of political partizanship against Government employees in the province of Quebec. Leo Bérubé, Esq., K.C., of Rivière du Loup en bas, Que.: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate charges of political partizanship against Government employees in the province of Quebec. Gaston Allard, Esq., of Berthierville, Que., barrister-at-law: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate charges of political partizanship against Government employees in the province of Quebec. Jan. 15, Harold Richmond Hooper, Esq., B.A., of Carberry, Man., barrister-at-law: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate charges of political partizanship against Government employees in the province of Manitoba. Jan. 16, L. A. Ladouceur, Esq., of Amos, Que., barrister-at-law: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate charges of political partizanship against Government employees in the province of Quebec. Jan. 19, Gerard Simard, Esq., K.C., barrister-at-law, of Rimouski, Que.: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate charges of political partizanship against Government employees in the province of Quebec. Jan. 21, E. H. Lancaster, Esq., barrister-at-law, of St. Catharines, Ont.: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate charges of political partizanship against Government employees in the province of Ontario. Jan. 28, B. B. Dubienski, barrister-at-law, Winnipeg, Man.: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate charges of political partizanship against the Government employees in the province of Manitoba. Jan. 29, Herbert Whitehead, Postmaster of Sudbury, Ont.: to be a Commissioner to take and administer the Oath of Allegiance and of office as prescribed by the Civil Service Act of Canada. Feb. 7, His Honour James Gamble Wallace, Judge of the County Court of the County of Oxford, Ont.: to be a Commissioner, under the provisions of the Naturalization Act, Chapter 138 of the Revised Statutes of Canada, 1927, and of Part I of the Inquiries Act, Chapter 99 of the Revised Statutes of Canada, 1927, to inquire into and report upon all cases from time to time referred to him by the Secretary of State of Canada in which may be considered the revocation of Naturalization Certificates. Feb. 23, W. H. Walter, Esq., of New Liskeard, Ont., barrister-at-law: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate charges of political partizanship against Government employees in the province of Ontario. Feb. 26, E. L. Elliott, Esq., of Assiniboia, Sask., barrister-at-law: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate charges of political partizanship against Government employees in the province of Saskatchewan. Feb. 26, J. Ernest Sirois, Esq., of Grande Rivière, Que.: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate charges of political partizanship against Government employees in the province of Quebec. Mar. 4, Maurice Pelletier, Esq., of Quebec, Que., barrister-at-law: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate charges of political partizanship against Government employees in the province of Quebec. Mar. 13, N. R. Robertson, barrister, of Walkerton, Ont.: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate charges of political partizanship against Government employees in the province of Ontario. Mar. 19, Norman Dudley Murray, Esq., barrister-at-law, of Halifax, N.S.: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate charges of political partizanship against employees of the Government of Canada residing in the mainland portion of Nova Scotia. Mar. 21, Louis Philippe Côté, Esq., of Matane, Que.: to be a Commissioner under Part I of the Inquiries Act, to inquire into charges of political partizanship against John Maloney, Esq., Indian agent at Mingan, in the said province of Quebec. Mar. 31, Hugh Howard Rowatt, Esq., of Ottawa, Ont., Deputy Minister of the Interior: to be Commissioner of the Northwest Territories. Apr. 10, Sir Josiah Stamp, G.B.E.: The Honourable James Thomas Brown, Chief Justice of the Court of King's Bench of the province of Saskatchewan, and William Sanford Evans, Esq., of Winnipeg, Man.: to be Commissioners under the provisions of Part I of the Inquiries Act, to inquire into and report upon what effect, if any, the dealing in grain futures has upon the price received by the producer. Apr. 22, Louis Philippe Côté, Esq., of Matane, Que.: to be a Commissioner, pursuant to the provisions of Part I of the Inquiries Act, to investigate charges of political partizanship against Government employees in the province of Quebec. Apr. 27, Henry Heane, Esq., of Elbow, Sask.: to be a Commissioner, under Part I of the Inquiries Act, chapter 99 R.S.C., 1927, to investigate charges of political partizanship against Government employees in the province of Saskatchewan. May 11, Alfred John Ernest Leonard, Esq., of Sweetsburg, Que.: to be a Commissioner, under the authority of Part I of the Inquiries Act, to investigate charges of political partizanship against Government employees in the province of Quebec. May 11, Edgar Albert Burnett, barrister, of Vancouver, B.C.: to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate charges of political partizanship against Government employees in the province of British Columbia.

Official Appointments, 1930.—May 30, Oliver Mowat Biggar, K.C., Ottawa, Ont.: to be Legal Adviser to the Chief Electoral Officer in reference to any matter relating to the General Election. June 1, Mme. P. E. Marchand, Ottawa, Ont. and Miss Annie M. Stuart, Grand Pré, N.S.: to be members of the Dominion Council of Health in the room and stead of Mme. Jules Tessier, Quebec, Que., Mrs. C. E. Flatt, Saskatoon, Sask., and Mr. W. F. Stephen, Ottawa, Ont., whose tenure of office has expired. June 6. To be members of the National Research Council for a period of three years expiring Mar. 31, 1933: L. C. Burton, President, Robert Simpson Co. Ltd., Toronto, Ont.; Charles Camsell, B.Sc., LL.D., F.R.S.C., Deputy Minister, Department of Mines, Ottawa, Ont.; A. L. Clark, B.Sc., Ph.D., F.R.S.C., Hon. M.E.I.C., Dean, Faculty of Applied Science, Queen's University, Kingston, Ont.; A. Frigon, B.Sc., D.Sc., A.M.A.I.E.E., A.M.E.I.C., Dean, École Polytechnique, and General Director for Technical Education in the province of Quebec, Montreal, Que.; Julian C. Smith, Shawinigan Water and Power Co., Montreal, Que. July 26, Lt.-Col. H. J. Coghill (Ottawa): to be Sergeant-at-Arms of the House of Commons, in the room and stead of Lt.-Col. H. D. Bowie, retired. Sept. 3, Hon. Pierre Édouard Blondin, Senator and a member of the King's Privy Council for Canada: to be Speaker of the Senate. Sept. 11, Sir Douglas Hazen, Chief Justice of New Brunswick: to be Administrator of the Government of New Brunswick during the absence of His Honour the Lieutenant Governor, dating from Sept. 13, 1930. Sept. 27, Lieutenant-Colonel Charles Beresford Topp, D.S.O., M.C., A.D.C., Ottawa, Ont.: to be Chief Pensions Advocate and the following to be Pensions Advocates: Joseph Connolly, Esq., Halifax, N.S.; Norman Wright Lowther, Esq., Charlottetown, P.E.I.; Lt.-Col. George Alexander Gamblin, M.C., V.D., Saint John, N.B.; Edward Charles Racette, Esq., Montreal, Que.; John Alexander MacIsaac, Esq., Ottawa, Ont.; Harry Bray, Esq., Toronto, Ont.; Lt.-Col. Edward Grafton Shannon, London, Ont.; Albert Henry Yetman, Esq., Winnipeg, Man.; Major William Alexander Adams, Regina, Sask.; Arthur Wakelyn, Esq., Calgary, Alta., and Francis Drewe Pratt, Esq., Vancouver, B.C. Lieutenant-Colonel Thomas Morrison, V.D., Hamilton, Ont.: to be Chairman of the Pension Tribunal, and the following to be Members of the Tribunal: Colonel Lawrence Howard MacKenzie, D.S.O., V.D., Stellarton, N.S.; Lieutenant-Colonel Norman Philips MacLeod, M.C., A.D.C., Saint John, N.B.; Col. Joseph Thomas Emile Gagnon, O.B.E., Montreal, Que.; Captain John Irwin Grover, Toronto, Ont.; Captain Leo Warde, Winnipeg, Man.; Lieutenant-Colonel Hugh Edwin Munroe, O.B.E., V.D., M.D., Regina, Sask.; Captain Ewen Cameron MacKenzie, Lethbridge, Alta., and Colonel Cyrus Wesley Peck, V.C., D.S.O., Victoria, B.C. Lieutenant-Colonel L. R. Lafleche, D.S.O., A.D.C., and Colonel Livius P. Sherwood, A.D.C., both of the city of Ottawa: to be Members of the Pension Appeal Court. Major Thomas Hamilton Warren, Ottawa, Ont.: to be Registrar of the Pension Appeal Court, and Antoine Chasse, Esq., Quebec, Que.: to be Registrar of the Pension Tribunal. Sept. 30, Richard A. Olmsted, Esq., Ottawa, Ont., barrister-at-law: to be Chief Commission Counsel, Board of Pension Commissioners for Canada. John Reginald Bowler, Esq., Ottawa, Ont.: to be a Member of the War Veterans' Allowance Committee. Oct. 6, Kenneth MacDonald, Esq., barrister, Portage la Prairie, Man.; Alfred Labelle, Esq., advocate, Montreal, Que.; A. M. Daykin, Esq., barrister, Vancouver, B.C.; H. A. L. Conn, Esq., barrister, Ottawa, Ont.; A. C. Pennington, Esq., barrister, Toronto, Ont., and H. A. Bridges, Esq., barrister, Saint John, N.B.: to be Commission Counsel, Board of Pension Commissioners for Canada. Oct. 10, Walter Drinnan, Esq., Vancouver, B.C.: to be a Pensions Advocate in the room and stead of Francis Drewe Pratt, resigned. Oct. 29, The Hon. Robert Edward Harris, Chief Justice of the Supreme Court of Nova Scotia: to administer the Government of the province of Nova Scotia during the absence of His Honour the Lieutenant-Governor, from Nov. 2 to Nov. 12, 1930, both dates inclusive. Nov. 1, The Hon. Sir Frederick William Gordon Haultain, Chief Justice of the province of Saskatchewan: to be Administrator of the Government of the province of Saskatchewan from the tenth day of December, 1930, to the twenty-fifth day of February, 1931, during the absence on leave of His Honour the Lieutenant-Governor from the province. Nov. 28, The Hon. George Howard Ferguson, K.C., B.A., LL.B., of the city of Toronto, province of Ontario: to be High Commissioner for Canada in London, England. Dec. 19, The Honourable James E. P. Prendergast, Chief Justice of Manitoba: to be Administrator of the Government of the province of Manitoba during the absence of His Honour the Lieutenant-Governor from Dec. 20, 1930 to Jan. 24, 1931, both dates inclusive. Dec. 24, Major General Sir Henry Worth Thornton, K.B.E., Montreal, Que.; Gerard Ruel, K.C., Montreal, Que.; Valentine Irving Smart, Ottawa, Ont.; Tom Moore, Ottawa, Ont.; James T. Cumming, New Glasgow, N.S.; John D. Palmer, Fredericton, N.B.; Honourable Murdock Kennedy, Breadalbane, P.E.I.; George Henderson, Montreal, Que.; J. Edouard Labelle, K.C., Montreal, Que.; Lucien Moraud, K.C., Quebec, Que.; Gordon Perry, Toronto, Ont.; Frederick K. Morrow, Toronto, Ont.; William Alves Boys, K.C., Barrie, Ont.; S. Elswood Richards, K.C., Winnipeg, Man., and J. Fyfe Smith, Vancouver, B.C.: to be the Board of Directors of the Canadian National Railway Company. **1931.**—Jan. 19, The Hon. James Duncan Hyndman, retired Judge of the Appellate Division of the Supreme Court of Alta.: to be President of the Pension Appeal Court. Jan. 27, The Rt. Hon. Sir William Mulock, K.C.M.G., Chief Justice of Ontario: to be Administrator of the Government of the province of Ontario, during the absence on leave of the Lieutenant-Governor, the Hon. William Donald Ross, from the 25th January instant, to the 9th February, 1931, both dates inclusive. Feb. 20, The Hon. James Alexander MacDonald, Chief Justice of British Columbia: to be Administrator of the Government of the province of British Columbia during the absence on leave of the Lieutenant-Governor, the Hon. Robert Randolph Bruce, from the 20th February, 1931, to such time as it may be convenient to appoint a successor to his Hon. the Lieutenant-Governor. Feb. 23, The Hon. Sir Frederick William Gordon Haultain, Chief Justice of Saskatchewan: to be Administrator of the Government of the province of Saskatchewan during the further absence on leave of the Lieutenant-Governor, the Hon. Henry William Newlands, from the 25th February, 1931, until such time as his successor is appointed and assumes office. Mar. 10, Hon. James Thomas Brown, Chief Justice of the Court of King's Bench of the province of Saskatchewan: to administer the Government of the said province from the 12th March, 1931 until such time as the Chief Justice of Saskatchewan, Sir Frederick W. G. Haultain, at present incapacitated through illness, is able to resume the duties of administrator. Apr. 7, The Rt. Hon. Francis Alexander Anglin, Chief Justice of Canada: to be Deputy of His Excellency the Governor General. Apr. 7, The Hon. Edmund Leslie Newcombe, Puisne Judge of the Supreme Court of Canada: to be Deputy of His Excellency the Governor General. Apr. 7, James Fuidge Crowdy, Esq., B.A., M.V.O.: to be Deputy of His Excellency the Governor General for the purpose of signing warrants of election, proclamations, writs for the election of Members of the

House of Commons and Letters Patent of Dominion and other lands. Apr. 7, Frederick Linwood Clinton Pereira, Esq., to be Deputy of His Excellency the Governor General for the purpose of signing warrants of election, proclamations, writs for the election of Members of the House of Commons and Letters Patent of Dominion and other lands. Apr. 10, The Hon. James McKay, Justice of the Court of Appeal, of the province of Saskatchewan: to be Administrator of the Government of the province of Saskatchewan *vice* the Hon. James Thomas Brown, appointed a Member of the Grain Commission. Apr. 17, J. H. Middagh, Esq., of Elbow, Sask.: to be the representative of Agriculture on the Dominion Council of Health from the 1st of April, 1931, *vice* W. F. Stephen, Esq., whose term of office has expired. May 4, The Honourable Joseph Andrew Chisholm, Puisne Judge of the Supreme Court of Nova Scotia; to administer the Government of the province of Nova Scotia during the absence of His Honour the Lieutenant-Governor, from May 6 to July 1, 1931, both dates inclusive.

Honorary Aides-de-Camp.—His Excellency the Governor General has been pleased to make the following appointments:—May 19, Col. (Hon. Br. Genl.) F. S. Meighen, C.M.G., V.D., R.O., Montreal, P.Q.; Col. (Hon. Br. Genl.) C. H. Maclaren, C.M.G, D.S.O., V.D., R.O., Ottawa, Ont.; Col. (Hon. Br. Genl.) T. L. Tremblay, C.M.G., D.S.O., R.O., Quebec, P.Q.; Col. (Hon. Br. Genl.) E. de B. Panet, C.M.G., D.S.O., R.O., Montreal, P.Q.; Group Capt. (Hon. Air Commodore) J. S. Scott, M.C., A.F.C., R.C.A.F. Reserve, Ottawa, Ont.; Group Capt. (Hon. Air Commodore) R. H. Mulock, C.B.E., D.S.O., R.C.A.F. Reserve, Montreal, P.Q.; Col. C. M. Edwards, D.S.O., V.D., R.O., Ottawa, Ont.; Wing Commdr. (Hon. Group Capt.) W. A. Bishop, V.C., D.S.O., M.C., D.F.C., R.C.A.F. Reserve, Toronto, Ont.; Lt. Col. L. R. Lafleche, D.S.O., R.O., Ottawa, Ont.; Lt. Col. S. C. Oland, V.D., R.O., Halifax, N.S.; Lt. Col. J. H. Price, M.C., Q.O.C. Hussars, Quebec, P.Q.; Lt. Col. J. A. Hope, D.S.O., M.C., V.D., L. & R. Scottish Regt., Perth, Ont.; Lt. Col A. O. T. Beardmore, V.D., 3rd Res. Bn. Royal Grenadiers, Toronto, Ont.; Lt. Col. J. E. L. Streight, M.C., V.D., 2nd Res. Regt., G.G.B.G., Toronto, Ont.; Lt. Col. A. C. Prince, V.D., R.O., Windsor, Ont.; Lt. Col. H. M. Wallis, D.S.O., M.C., V.D., Black Watch of Canada, Montreal, P.Q.; Lt. Col. J. R. Gale, V.D., St. John Fusiliers, Saint John, N.B.; Lt. Col. G. A. Drew, 11th Field Brigade, C.A., Guelph, Ont.; Lt. Col. C. W. G. Gibson, M.C., V.D., Royal Hamilton L.I., Hamilton, Ont.; Lt. Col. J. C. Foy, V.D., G.G.F.G., Ottawa, Ont.; Lt. Col. J. F. G. Garneau, Regt. de Hull, Ottawa, Ont.; Major F. I. Andrew, M.M., P.E.I.L.H., Charlottetown, P.E.I.; Lt. Commander J. C. A. Pettigrew, R.C.N.V.R., Quebec, P.Q.; May 20, Lt. Col. R. Y. Douglas, R.C.M.P., Ottawa, Ont.

Judicial Appointments, 1930.—July 26, Joseph Wearing, Peterborough, Ont., barrister-at-law: to be Judge of the County Court of the County of Middlesex, Ont., and a Local Judge of the High Court Division of the Supreme Court of Ontario. Thomas Gallant, K.C., Gravelbourg, Sask.: to be Judge of the District Court of the Judicial District of Gravelbourg, Sask. Sept. 3, Geo. C. Thomson, of the city of Hamilton, in the province of Ontario, barrister-at-law: to be the Senior Judge of the County Court of the County of Wentworth, in the said province, and a Local Judge of the High Court Division of the Supreme Court of Ontario. Sept. 23, Louis Cousineau, Esq., K.C., of the city of Hull, Que.: to be a Puisne Judge of the Superior Court in and for the province of Quebec.

James F. Smellie, Esq., K.C., of the city of Ottawa, Ont.: to be Registrar of the Supreme Court of Canada. Dec. 19, George Herbert Sedgwick, Esq., K.C., of Toronto, province of Ontario: to be a Judge of the High Court Division of the Supreme Court of Ontario and *ex officio* a Judge of the Appellate Division of the said Supreme Court of Ontario. Dec. 20, Emile Gelley, Esq., K.C., Quebec, Que.: to be a Puisne Judge of the Superior Court in and for the province of Quebec. **1931.**—Jan. 27, The Hon. William Legh Walsh, a Justice of the Trial Division of the Supreme Court of Alberta: to be a Justice of Appeal of the Appellate Division of the Supreme Court of Alberta and *ex officio* a Judge of the Trial Division of the Supreme Court of Alberta. Jan. 27, Albert Freeman Ewing, Esq., of the city of Edmonton, Alta.: to be a Justice of the Trial Division of the Supreme Court of Alberta and *ex officio* a Judge of the Appellate Division of the Supreme Court of Alberta. Feb. 5, Marvin L. Hayward, of Hartland, N.B., barrister-at-law: to be Judge of the County Court for the Counties of Charlotte, Carleton, Victoria and Madawaska, in the said province of New Brunswick. Mar. 4, Dudley Holmes, Esq., of Goderich, Ont.: to be Senior Judge of the County Court of the County of Simcoe, in the province of Ontario. Mar. 4, His Hon. Dudley Holmes, Senior Judge of the County Court of the County of Simcoe, in the province of Ontario: to be a Local Judge of the High Court Division of the Supreme Court of Ontario. Mar. 4, John Arthur Jackson, Esq., of Gananoque, Ont.: to be Second Junior Judge of the County Court of the County of York, in the province of Ontario. Mar. 4, His Hon. John Arthur Jackson, Second Junior Judge of the County Court of the County of York, in the province of Ontario: to be a Local Judge of the High Court Division of the Supreme Court of Ontario. Mar. 4, Melville Brockett Tudhope, Esq., of Orillia, Ont.: to be the Judge of the County Court of the United Counties of Leeds and Grenville, in the province of Ontario. Mar. 4, His Hon. Melville Brockett Tudhope, Judge of the County Court of the United Counties of Leeds and Grenville, in the province of Ontario: to be a Local Judge of the High Court Division of the Supreme Court of Ontario. Mar. 4, Thomas Moore Costello, Esq., of Renfrew, Ont.: to be the Judge of the County Court of the County of Huron, in the province of Ontario. Mar. 4, His Hon. Thomas Moore Costello, Judge of the County Court of the County of Huron, in the province of Ontario: to be a Local Judge of the High Court Division of the Supreme Court of Ontario. Mar. 4, James Boyd Moon, Esq., of Mount Forest, Ont., barrister-at-law: to be the Judge of the District Court of the Provisional Judicial District of Parry Sound, in the province of Ontario. Mar. 4, His Hon. James Boyd Moon, Judge of the District Court of the Provisional Judicial District of Parry Sound, in the province of Ontario: to be a Local Judge of the High Court Division of the Supreme Court of Ontario. Mar. 12, Hon. Maurice Dupré, of the city of Ottawa, Ont., barirster-at-law and Solicitor General of Canada: to be one of His Majesty's Counsel learned-in-the-law. Mar. 17, Uriah McFadden, Esq., of Sault Ste. Marie, Ont.: to be Judge of the County Court of the County of Kent, in the province of Ontario. Mar. 17, His Hon. Uriah McFadden, Judge of the County Court of the County of Kent, in the province of Ontario: to be a local Judge of the High Court Division of the Supreme Court of Ontario. Apr. 29, Hugh Paterson Innes, Esq., K.C., of Simcoe, Ont.: to be Judge of the County Court of the County of Dufferin, in the said province of Ontario. Apr. 29, His Honour Hugh Paterson Innes, Judge of the County Court of the County of Dufferin in the province of Ontario: to be a local Judge of the High Court Division of the Supreme Court of Ontario. Apr. 29, Andrew A. Ingram, Esq., K.C., of St. Thomas, Ont.: to be Junior Judge of the County Court of the County of Middlesex, in the said province of Ontario. Apr. 29, His Honour Andrew A. Ingram, Junior Judge of the County Court of the County of Middlesex, in the province of Ontario: to be a local Judge of the High Court Division of the Supreme Court of Ontario. Apr. 29, Frederick William Willson, Esq., K.C., of Sarnia, Ont.: to be Junior Judge of the County Court of the County of Essex, in the said province of Ontario. Apr. 29, His Honour Frederick William Willson, Junior Judge of the Court of the County of Essex, in the province of Ontario: to be a local Judge of the High Court Division of the Supreme Court of Ontario. Apr. 29, James Parker, Esq., K.C., of Toronto, Ont.: to be Sixth Junior Judge of the County Court of the County of York, in the said province of Ontario. Apr. 29, His Honour James Parker, Sixth Junior Judge of the County Court of the County of York, in the province of Ontario: to be a local Judge of the High Court Division of the Supreme Court of Ontario. Apr. 29, Frank Meade Field, Esq., K.C., of Cobourg, Ont.: to be Seventh Junior Judge of the County Court of the County of York, in the said province of Ontario. Apr. 29, His Honour Frank Meade Field, Seventh Junior Judge of the County Court of the County of York, in the province of Ontario: to be a local Judge of the High Court Division of the Supreme Court of Ontario. May 8, Alexander Andrew McGillivray, Esq., K.C., of Calgary, Alta.: to be a Justice of Appeal of the Appellate Division of the Supreme Court of Alberta and *ex officio* a Judge of the Trial Division of the said Supreme Court of Alberta. May 19, Hon. John Babington MacAulay Baxter, K.C., Premier and Attorney General of the province of New Brunswick: to be a Judge of the Appeal Division of the Supreme Court of New Brunswick. Hon. John Babington MacAulay Baxter, a Judge of the Appeal Division of the Supreme Court of New Brunswick: to be a Judge of the Chancery Division of the Supreme Court of New Brunswick.

Day of General Thanksgiving.—Monday, Nov. 10, 1930, was appointed by proclamation as a "day of general thanksgiving to Almighty God for the bountiful harvest and other blessings with which Canada has been favoured this year".

APPENDIX.

1.—Immigration in the fiscal year 1930-31.

During the fiscal year ended Mar. 31, 1931, the immigrants into Canada, classified as in the summary table appearing on p. 173 of this volume, were as follows: From U.K., 27,584; from U.S.A., 24,280; from other countries, 36,359; total 88,223.

Canadians returned from the United States during the fiscal year ended Mar. 31, 1931, classified as in the table on p. 187, were as follows: Canadian-born, 26,811; British-born with Canadian domicile, 2,111; naturalized Canadian citizens; 1,287; total, 30,209.

2.—External Trade of Canada in the fiscal year 1930-31.

Preliminary figures of the external trade of Canada for the fiscal year ended Mar. 31, 1931, show a grand total trade of $1,723,550,729, as compared with a figure of $2,393,211,652 in the preceding year, or a decrease of $669,660,923. The decrease in the imports was $341,660,901. Domestic exports decreased by $320,605,635, and foreign exports by $7,394,387. Figures by industrial groups are given in the following table, where the figures of imports and exports may be compared with the totals given for previous years in the tables on pp. 513, 521-3 of this volume.

Imports and Exports of Canada, fiscal year ended Mar. 31, 1931.

Industrial Group.	Imports.
	$
Agricultural and vegetable products	177,628,778
Animals and animal products	45,995,705
Fibres, textiles and textile products	130,717,022
Wood, wood products and paper	46,042,029
Iron and its products	194,888,443
Non-ferrous metals and their products	59,623,263
Non-metallic minerals and products	153,578,658
Chemicals and allied products	35,650,772
Miscellaneous commodities	62,488,011
Total, Imports	**906,612,681**
Total, Dutiable Imports	574,090,216
Total, Free Imports	332,522,465
Duty Collected	149,097,855
	Exports.
	$
Agricultural and vegetable products	292,280,037
Animals and animal products	83,714,772
Fibres, textiles and textile products	6,504,182
Wood, wood products and paper	230,514,474
Iron and its products	38,937,661
Non-ferrous metals and their products	95,652,063
Non-metallic minerals and products	21,107,780
Chemicals and allied products	12,825,852
Miscellaneous commodities	18,115,846
Total, Domestic Exports	799,652,667
Total, Foreign Exports	17,285,381
Total, Exports	**816,938,048**
Grand Total, External Trade	**1,723,550,729**

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